

Open Research Online

The Open University's repository of research publications and other research outputs

Unravelling reading : evaluating the effectiveness of strategies used to support adults' reading skills

Thesis

How to cite:

Partridge, Susan Eunice (2012). Unravelling reading : evaluating the effectiveness of strategies used to support adults' reading skills. EdD thesis The Open University.

For guidance on citations see [FAQs](#).

© 2011 The Author(s)



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Version: Version of Record

Link(s) to article on publisher's website:

<http://dx.doi.org/doi:10.21954/ou.ro.0000bfda>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk



Unravelling reading: Evaluating the effectiveness of strategies used to support adults' reading skills

Susan Eunice Partridge, MA (Oxon.), M.Sc.

Personal Reference number: M7017803

Doctor of Education (EdD)

Education: Language and Literacy

2011

DATE OF SUBMISSION: 6 DECEMBER 2011

DATE OF AWARD: 29 MARCH 2012

“‘What are you doing here?’ asked my Guardian.
‘Trying to learn myself to read and write,’ said Krook.
‘And how do you get on?’
‘Slow. Bad,’ returned the old man, impatiently. ‘It’s hard at my time of life.’
‘It would be easier to be taught by someone,’ said my Guardian.
‘Aye, but they might teach me wrong!’ returned the old man with a wonderfully suspicious flash of his eye. ‘I don’t know what I may have lost, by not being learned afore. I wouldn’t like to lose anything by being learned wrong now.’”

*Charles Dickens (1996) Bleak House, Penguin, London, pp. 236-7
(first published 1853)*

“She was struggling, as she had always struggled, not to show what she could do, but to hide what she couldn’t do. A life made up of advances that were actually frantic retreats and victories that were concealed defeats.”

*Bernhard Schlink (2008) The Reader (English paperback edition),
Phoenix, London, p.133 (first published 1997)*

Table of Contents

List of tables and figures 7

Acknowledgements 8

Abstract..... 9

Chapter 1 : Introduction to the research..... 11

Chapter 2 : The literature review 15

 2.1 Introduction 15

 2.2 The political context and recent media coverage of the
 subject 16

 2.3 Overarching reviews of the subject 23

 2.4 Theories about reading 31

 2.5 Dyslexia as a source of difficulty in reading 39

 2.6 Issues concerning the differences between adults' and
 children's acquisition and maintenance of reading skills..... 43

 2.7 Particular facets of adults' reading skills and ways to
 measure progress, following on from Kruidenier (2002) and
 Kruidenier *et al.* (2010) 51

 2.8 Other factors involved in a pedagogy for improving skills .. 58

Chapter 3 : Research questions..... 62

Chapter 4 : Methodology..... 72

Chapter 5 : The data collection phase 85

 5.1 An initial study..... 85

 5.2 The design of the main study..... 87

 5.3 Participants 88

 5.4 Timeframe and phases 90

 5.5 Protocols 90

 5.6 Assessment tools..... 91

 5.7 Intervention tools 96

 5.8 Evaluation methods 102

Chapter 6 : Analysis of findings from the main study 103

 6.1 Introduction 103

6.2 Characteristics of learners	104
6.3 Initial assessment results	109
6.4 Choice of approaches in the intervention stage	114
6.5 Data analysis	122
6.6 Quantitative data on progress made by learners between the initial and summative assessment phase.....	123
Chapter 7 : Profile analysis	131
7.1 Profile of learner ML7 (Jill) following intervention and summative assessment phase.....	131
7.2 Profile of learner ML9 (Helen) following intervention and summative assessment phase.....	135
7.3 Profile of learner ML3 (Bill) following intervention and summative assessment phase.....	139
Chapter 8 : Further qualitative analysis: finding patterns	144
8.1 Starting level	146
8.2 Dyslexic learners	148
8.3 Bilingual learners	149
8.4 Intervention types	149
8.5 The effects of different combinations of intervention.....	156
8.6 Tutors' skills	160
Chapter 9 : Discussion.....	163
9.1 Introduction	163
9.2 Discussion stemming from learner profiles	163
• The impact of the social context of learners.....	164
• The impact of cognitive factors	168
• Which strategies worked best for individuals	170
• A pedagogy for learning support.....	174
9.3 A commentary on the findings from Chapters 6 and 8	175
9.4 Answering the research questions	176

Q1: What counts as an improvement in reading skills for adults (given the range of aspects and components involved in effective reading)?	176
Q2: What are the practical and ethical issues in measuring improvements in reading skills?	180
Q3: How far do Kruidenier's (2002) and Kruidenier <i>et al.</i> 's (2010) 4 components of reading (alphabetic, vocabulary, fluency and comprehension), elucidate the characteristics of adults' reading skills, the tools most useful for intervention, and the improvements adults may make?	186
Q4: How far do individual differences impact on an adult reader's capability to improve?	194
Q5: What are some of the features of good support for adults' reading skills that influence their improvement?	196
9.4 Summary of key findings.....	198
Chapter 10 : Evaluation and recommendations for future research and practice	201
10.1 Recommendations for future research.....	207
10.2 Recommendations for future practice	207
Bibliography	211
Appendices	229
Appendix 1: A matrix of my thoughts on different types of research into reading	229
Appendix 2: Application for ethical clearance for the research	230
Appendix 3: Assessment tools and their sources	237
Appendix 4: Initial interview proforma	238
Appendix 5: Evaluation tools.....	242
Appendix 6: Evaluation sheet (learner)	243
Appendix 7: Evaluation sheet (tutor).....	244
Appendix 8: Feedback form: Rating of strategies used	245

Appendix 9: Summary of intervention tools.....	246
Appendices 10 - 20: Guidance sheets for intervention phase..	248
Appendix 10: A1: Enhanced Look, Cover, Write, Check.....	248
Appendix 11: A2: Rime prompting	249
Appendix 12: A3: Onset-rime training	251
Appendix 13: C1: SQ3R	252
Appendix 14: C2: Strategic reading	253
Appendix 15: Bookmark for guidance sheets C1 and C2	254
Appendix 16: F1: aids for tracking print	255
Appendix 17: F2: Paired reading	257
Appendix 18: V1: Structured vocabulary work	258
Appendix 19: Vocabulary frame for use with V1	259
Appendix 20: V2: Vocabulary development	260
Appendix 21: Profile analysis, based on Besser et al. (2004), and results for learners in the initial study.....	261
Appendix 22: Letter to the Guardian newspaper, April 2009..	267
Appendix 23: Some guidelines for interpreting reading assessments for adults: Sue Partridge, September 2009	269
Appendix 24: Three texts used for passage reading and miscue analysis.....	284
Appendix 25: Profiles of learners.....	291

List of tables and figures

Table 3:1 A grid of the intended sources of evidence relating to each research question	67
Table 4:1 Case study design based on Yin (2009) p. 46	74
Table 5:1 Assessment tools and their evaluation following the initial study	93
Table 6:1 Summary of starting levels	109
Table 6:2 Summary of results from single word tests at initial assessment.....	111
Table 6:3 Summary of initial assessment findings from passage reading	113
Table 6:4 Alphabetics (word attack) strategies used.....	116
Table 6:5 Comprehension strategies used	117
Table 6:6 Fluency strategies used	118
Table 6:7 Vocabulary development strategies used	120
Table 6:8 Differences in WRAT4 single word reading standard scores	125
Table 6:9 Differences in word accuracy	126
Table 6:10 Differences in reading speed (words per minute).....	127
Table 6:11 Differences in reading comprehension.....	128
Table 6:12 Differences in reading effectiveness	129
Table 8:1 Lines of enquiry in analysis of results for different learner types and combinations of intervention	145
Table 8:2 Learner characteristics and interventions used.....	156
Table 8:3 Combinations of interventions.....	158

Acknowledgements

I would like to thank the following organisations for hosting my research:

City College, Birmingham

City College, Coventry

City of Wolverhampton College

Leicester College

Loughborough College

Warwickshire Adult Education Service

Especial thanks to my collaborator researchers for the superb effort and insights they provided on my behalf: Eileen Gane, Melanie Knight, Moira McManus, Lesley Scott and Debbie Stanton-Smith; to Preeti Mackan for her innovative vocabulary frame; to other members of my researchers' focus group and people who post comments on my website.

Most importantly, thank you to the eighteen adult learners who participated in this study as partners in the research.

A big thank you to my supervisor, Dr Margaret Crombie, for her attention to detail and thought-provoking comments on my work. I am indebted to Professors Teresa Cremin and John Richardson for their further insights and rigorous checks on my thesis.

Many thanks to Freddie for setting up my website and prompting clarity in my thinking from a scientific standpoint; to Ben for ICT support and empathy as a fellow doctoral candidate.

Thanks to Nick for being my inspiration, my most tender critic and the best proof-reader.

Abstract

This thesis reports on research into ways of evaluating the effectiveness of strategies to improve adults' reading skills. It explores what counts as an improvement in reading skills for adults; examines practical and ethical issues in measuring improvements in reading skills; considers Kruidenier's (2002) categorisation of reading into components (alphabetic, vocabulary, fluency and comprehension); evaluates how far individual differences impact on an adult reader's capability to improve; identifies features of good support for adults' reading skills; and recommends changes in policy and practice.

The research paradigm is eclectic, exploring approaches for an interventionist practitioner-researcher. In the tradition of action research, the study seeks to bring about positive change on an individual level for each learner, improvements in practice at a pedagogical level for teachers and, at a policy level, recommendations for more effective teaching and learning. The research is framed as a multiple case study based on Yin (2009).

In an initial study, tools for assessment and support were piloted and evaluated. The main study extended the methodology, using 5 fellow practitioners as collaborator researchers. A total of 10 adult learners completed a one-to-one support programme with materials and approaches tailored to each learner's interests and needs. Techniques included work to extend vocabulary, word recognition skills, fluency and comprehension, based on a series of original guidance sheets, linking findings from research to practice.

Analysis of results included quantitative measures of changes in accuracy, reading speed and comprehension. Qualitative analysis

stemmed from detailed profiles of learners' progress, detailed observational records and evaluation of emerging trends, leading to a discussion of key themes for future policy and practice.

The key findings include: an increase in individuals' reading skills following even a short period of individualised support; the identification of effective strategies like vocabulary development and paired reading; the importance of taking into consideration the characteristics of learners, their social setting and sources of motivation; the positive impact of one-to-one support; and considerable light cast on assessment practice.

The thesis ends with recommendations for: further work on the assessment and support of comprehension skills; using detailed learner profiling as an assessment technique; supporting a claim for the effectiveness of one-to-one support in adult literacy; and guidance for practitioners on implementing a wider range of strategies to support adults' reading.

Chapter 1 : Introduction to the research

Reading has been part of my life for as long as I can remember. I am one of those lucky people who cannot actually remember the breakthrough in learning to read. One moment I was not reading, the next minute I was reading avidly. My mother and I read together regularly up to my teenage years and we still share conversations about our favourite books. My house is lined with books of all genres. I read fiction every day, gaining relaxation and access to a world of imagination and character. I read constantly for work and self development. Having strayed almost accidentally into the world of adult literacy in 1981, I have made it my life's mission, in the hope that I can help others access something of the world of enrichment that reading can bring about. In so doing, I need to unravel all the different facets that contribute to effective reading and the methods and strategies that might help adult readers improve.

Research, like life, is about making choices, some of which are more open to the individual researcher than others. Through reading around my research topic I am able to access insights into all of the different genres of research into reading, to analyse where they differ and complement each other and where they appear to tell totally different stories. My literature search (Chapter 2) aims to untangle and interpret the different findings for adults and children; to see how research based in a laboratory or brain imaging clinic compares with research in a real life educational setting; to compare research that seeks to find theoretical explanations for patterns found in groups with research that explores the richness of individual differences. Theories about reading need to be analysed, taking account of social models of literacy as well as the results from psychological research. Above all we need to work out how we can apply the findings from

such diverse research in practice. Appendix 1 contains a chart which I devised to make sense of the different types of research I uncovered.

My own research does not seek to replicate any one research stance but to explore the possible ways of examining what happens when individual adults try to improve their reading skills in an educational setting, comparing what they bring to the equation in terms of individual differences with the strategies that may be offered by dedicated adult educationalists. I take into account the implications of the context and setting in which they learn. Although I am passionately interested in the nature of dyslexia and the impact this has on adults' facility with reading, this research is about literacy difficulties in a more general sense and only tangentially about dyslexia. I make no distinction between reading difficulties specific to dyslexia and reading difficulties of other kinds.

My research is also situated in the wider political arena, where governments set targets for improvements in literacy skills. Access to literacy skills in an increasingly technological world is a matter of economic importance and an imperative for an inclusive society. I therefore intend, in the tradition of action research, to bring about positive change (Robson 2002, p. 215):

- on an **individual** level, with each learner;
- on a **pedagogical** level, to recommend new approaches for teachers for assessment and learning support;
- on a **policy** level to inform government.

Perrin and Powell (2004) argue convincingly for small scale interventions that have a long term impact. Practitioner action research is not seen as an end in itself but should be judged on its outcomes.

Research into adult literacy that is aware of its political context falls within a radical tradition epitomised by the work of Paulo Freire. His influential writings urge us to be aware of the power relationships inherent in adult literacy teaching and to use literacy as a tool for emancipation rather than reinforcing the primacy of a dominant discourse. His words are as relevant now as they were 3 decades ago:

The notion that literacy is a matter of learning the standard language still informs the vast majority of literacy programs and manifests its logic in the renewed emphasis on technical reading and writing skills. (Freire and Macedo 2005, p.98)

I will return to this point in Chapter 2, when looking at a pedagogy for adult learning.

I also feel a need to stay tuned in to current opinion in the popular media, as opposed to keeping my research safely and exclusively in the realms of academe. We genuinely need to debate which methods work best to support adults' reading skills. To this end and as a longer term project, in January 2010 I launched my own website, www.unravellingreading.org.uk (Partridge 2010a) with articles to which subscribers can post comments in the style of a "blog". Up to 26 September 2011 it had received 1954 hits from 57 countries, with 37% making return visits. It has 30 subscribers contributing a range of different comments. Wolf (2008) expresses fear that changes in technology may change readers' relationship with language: "Will the current generation become so accustomed to immediate access to onscreen information that the range of attentional, inferential and reflective capacities in the present reading brain will become less well developed?" (p.214). I am more confident that electronic media will enhance the availability and appreciation of reading material.

The next chapter comprises my literature review, divided into eight sections for ease of reference. It illustrates the breadth of theory and debate underpinning my research questions. In Chapter 3, I articulate those research questions, which are posed at four different levels of thinking. In Chapter 4 I explain the research methodology I have chosen for this study which included an initial pilot study and main phase, and outline the decisions made in choosing the broad framework of a case study, but with elements of other styles of research. Chapter 5 gives full details of my initial study and main study, providing links to illustrate that, in essence, changes between the two were mainly of nuance rather than a radical shift in design. Chapter 6 is the first of three chapters covering the data analysis phase, concentrating firstly on quantitative data. Chapter 7 is devoted to detailed profiles of three of the learners concerned, representing a reasonable sample of the range of cases (with the remainder included in Appendix 25). Chapter 8 examines factors that influence progress relating to a combination of learner types and intervention methods. In Chapter 9 I discuss general lessons learned from all the sources of data and then return to the research questions to comment on their possible answers. Finally, Chapter 10 covers areas for research and development of practice in the future. The tools used in my research and all ancillary documents can be found in the appendices.

Chapter 2 : The literature review

This review has been divided for convenience into the following themes:

- 2.1. Introduction
- 2.2. The political context and recent media coverage of the subject
- 2.3. Coverage of other overarching reviews of the field
- 2.4. Theories about reading
- 2.5. Dyslexia and other possible sources of difficulty in reading
- 2.6. Issues concerning the differences between adults' and children's acquisition and maintenance of reading skills
- 2.7. Particular facets of adults' reading skills and ways to measure progress
- 2.8. Other factors involved in a pedagogy for improving skills.

2.1 Introduction

Much of the grounding of this study, and certainly part of its potential to influence policy and practice, will lie in the coherence of its theoretical base.

The search for credible literature and theory to back up the separate strands of my research has involved a wide trawl through different types of research at different levels. As well as sources soundly focused on methodology and pedagogy, I have uncovered debate about the validity of research methods in this field and disagreement about the conceptual status of theories about reading itself. Different levels of discourse persist in the popular media, in different professional educational journals, between these and the body of psychological research, between studies in the USA and the UK and certainly between the worlds of child and adult education. The past

four years have also seen a range of political debate, coverage in the media and the publication of at least two books of popular science on the subject (Wolf, 2008, Dehaene, 2009). It is important to reflect what policy makers and the general media have to say about a topic of concern in the context of raising educational standards, as this can often seem to influence policy as much as more detailed research. This literature review can give only a flavour of the thinking and how it varies across disciplines and between individuals, but will try to take account of and evaluate the impact of the different styles and genres. I have highlighted emerging themes and key topics in bold, throughout.

2.2 The political context and recent media coverage of the subject

Around the time of my initial study in 2007, the political debate on standards in reading increased significantly in intensity. The Rose Report (Rose 2006) had advocated “high quality phonic work within a language-rich curriculum” for schools, modifying the literacy strategy. A Channel 4 television series broadcast in October 2007, *Dispatches: Why our kids can't read* and *Last Chance Kids* (Lost for words 2007), profiled seemingly miraculous improvements in standards in schools using a programme of “synthetic phonics”.

Between October and November 2007, three survey reports indicated problems in reading attainment. The Primary Review (Alexander 2009), a wide-ranging and independent enquiry into the condition and future of primary education in England, started publishing interim reports on standards. Its national and international surveys seemed to indicate relatively stable attainment in primary school children's reading across the UK, but a possible decline in

attitude to and enjoyment of reading, as children move through primary school (Tymms and Merrell, 2007; Whetton, *et al.* 2007).

The update of the Progress in International Reading Literacy Study (PIRLS) (Twist *et al.* 2007) came out in November 2007. It appeared in the news headlines, stating that results for 10 year olds in England had plummeted from 3rd to 15th in a league table of reading attainment and in Scotland from 14th to 21st. The UK prime minister intervened to offer £5 million of funding for books in nursery schools and suggested parents read more regularly to their children. The Conservative opposition party called for an immediate move to synthetic phonics tuition in schools and a group of leading authors petitioned Downing Street for urgent government action. In fact the ordinal decline in the UK's performance on this survey does not necessarily indicate a drop in absolute standards. The figures are skewed by the fact that a number of countries not included in a previous survey slotted in ahead of England and Scotland in the table of scores. Actual performance in the UK remains around "average" for the sample.

The following week the Organisation for Economic Cooperation and Development (OECD) published a survey of 15 year olds' performance in reading in 2006 compared with 2000 (Programme for International Student Assessment, PISA 2007). This time the United Kingdom slipped from 7th to 17th, but the two surveys were not comparing like with like. As well as sampling bias (for instance small, highly literate countries like Liechtenstein, Estonia and the special administrative region of Hong Kong joined the survey for the first time), the 2006 survey actually used more valid reading test scores as data as opposed to a substitute measure (GCSE performance), used as a result of a technical difficulty with the sample in 2000. A

BBC radio programme “More or Less”, which has a good record of re-interpreting statistical findings misrepresented in the news (More or Less 2007), was astounded that the British media were caught out two weeks running misinterpreting data on the same issue.

The debate for and against teaching children phonics evokes passionate feelings and strong claims. One popular book with a determinedly anti-phonics line, *Read Right* by Dee Tadlock (Tadlock 2005) and its associated website claims a “guaranteed reading improvement” in children and adults who use its “interactive constructivist” methods. Tadlock’s website takes a similarly evangelical tone to that of Ruth Miskin, who was the expert profiled in the Channel 4 television series mentioned above. Miskin (2007) advocates exclusive use of synthetic phonics in the early stages of primary school. This is a complex issue, as both cannot be completely right. The issue will not be resolved in the superficial way that media coverage allows, but gives the impetus for further research.

Freebody (2007)’s review of literacy education in Australian schools also illustrates the political context. He reflects on the body of relevant research accumulated throughout the 20th century to define what is important in literacy within particular cultural settings. His stance is overtly political as well as practical - “definitions of literacy not only guide practice but are also guided by practice” (p. 9) and he agonises as to whether literacy is an “entity distinct from its means of assessments and contrariwise, the extent to which different kinds of assessment address different kinds of literacy capability.” (p.11). This issue was particularly pertinent for me, given how far my initial study concentrated on finding valid means of assessing adult reading skills.

In 2008 the neuroscientist Maryanne Wolf published a wide-ranging book accessible to a lay-person (Wolf 2008), that explores the evolution of literature, culture and the human brain to accommodate the growing development of reading skills. In a well-rounded account (pp.108 to 143) she identifies the principal processes and brain biology for a child acquiring reading skills developmentally. This covers perceptual, phonological, orthographic and morphological features of reading that need to be processed, often in separate **phases of development**. She highlights the important moment when a child first sees the significance of reading and takes on comprehension of meaning. Importantly, she distinguishes early features of a child's *growing* fluency as:

the product of the initial development of accuracy
and the subsequent development of automaticity in
underlying sublexical processes, lexical processes,
and their integration into single-word reading and
connected text. (Wolf 2008 p.268).

Of significance for a study of adults' reading skills, Wolf defines fluency in a more advanced reader as: "a level of accuracy and rate at which decoding is relatively effortless, oral reading is smooth and accurate with correct prosody, and attention can be paid to comprehension." (p. 268).

She includes a useful visual time line (p.144) of the cognitive processes (and their brain location) that an "expert" reader follows when reading text. In pinpointing the complexity of the process, Wolf emphasises the "beautiful change from novice reading [to expert]...testimony to our continually expanding intellectual evolution." (p.162).

A less convincing foray into the realm of popular science in this area was made by Stanislas Dehaene (2009), seeking to explain some of the brain circuitry behind reading and its evolution to the lay reader. He proposes that, given that writing (and so reading) is a cultural invention, developing some 5000 to 8000 years ago, the human brain, whose evolutionary development was much older, could not have had a pre-existing reading function. Dehaene suggests as an explanation for this anomaly a form of “neuronal recycling”, whereby existing networks of connections (for shape recognition and making sense of the visual world) are “co-opted to the task of recognising the printed word” (p. 8). The reading process is complex but also highly developed and efficient, allowing most children to pick up the facets of reading in around two years. The brain’s plasticity allows it to develop new circuitry as we learn. Most competent adult readers, according to Dehaene, have a fully integrated visual, phonological and lexical system to make sense of text via a series of mostly unconscious and automatic operations.

Regardless of whether one agrees in detail with Dehaene’s view of brain circuitry, which is somewhat controversial, a matter of concern is that he also portrays strong views on pedagogy. He uses his status as a neuroscientist with experience in the laboratory and the hospital to claim an influence in the classroom, stating somewhat dogmatically what he thinks is right for beginner readers. It is important when evaluating research to consider how far theory can be translated into practice in the field. More detailed reviews of Wolf (2008) and Dehaene (2009) can be found on my website (Partridge 2010a).

In April 2009 the debate about methods of teaching reading surfaced again, but a little closer to home when an article in the Guardian

newspaper (Kingston 2009) appeared to promote the argument in favour of the effectiveness of delivering phonics tuition within **adult** literacy. The article cited research (Burton *et al.* 2008) which I review later in this chapter, and quoted Maxine Burton as saying, “[Phonics is] associated with teaching reading to children and adult literacy practitioners are fairly careful not to teach adults like children.” Crucially Burton pointed out that phonics tuition is meant to be delivered as part of a broader adult literacy curriculum. One of the teachers in the research project commented that the phonics programme required a lot of repetition, but that learners did feel the benefit. Professor Greg Brooks, who led the Sheffield University research team, was quoted as saying, “It ought to convince adult literacy teachers that this is something they should take seriously and incorporate into their teaching practices.”

The following week the Guardian published an article (Allison 2009) that said people did not need academic research to prove that phonic tuition helped adults. The article’s author pointed out the success of “Toe by Toe”, a phonic scheme widely used in prisons (Cowling and Cowling 1993). Stimulated by the need to avoid extremes of polarity that these sorts of article can incite, I wrote a letter to the newspaper (Partridge, 2009) which was published in a slightly edited form the following week (Appendix 22). In it I advocated a pragmatic approach based on what adult education providers could economically resource (phonic tuition done well is very labour intensive) and a balance of different strategies as trialled here in my own research.

In July 2010, a long awaited debate on phonics between Professor Greg Brooks and Dr Ross Cooper (Brooks and Cooper 2010) was published in the form of an article comprising an edited exchange of

emails. In essence the two contributors agreed to differ. Cooper cites my forthcoming thesis as an example of much needed research which brings out the “complex context” of adults’ learning (p.21).

In September 2011, a 10-year review of the United Kingdom government’s Skills for Life strategy was published (Boswell 2011). This gives a clear steer to policy makers and practitioners to make further developments in the quest to raise adult literacy skill levels. The recommendations include a search for better assessment tools, and finding the best ways of delivering adult literacy provision in different contexts; “what works best and for whom in relation to digital learning; the real social and economic gains of developing literacy for families and workplaces.” (p.14). Research is seen as an important part of this effort.

The lessons to be learned from political debate and research translated into the popular media, as I see it, are:

- to be aware of the passion with which league tables and issues of education are debated, in politics and media
- to note the impact of statistical analysis in reporting the findings of studies, and the potential sources of bias and misinterpretation in their use;
- to beware of the evangelical stance that states that any one method is likely to work for all learners. Especially for adults with varied backgrounds, experience and motivation, an eclectic approach is more likely to be fruitful, as Frith argues (Frith 1999). Barton (2001) also advocates an approach that takes account of the social context of literacy issues, which is important in order to avoid surface conclusions.

- To situate research on adult literacy in a real life context and not be afraid to challenge traditional orthodoxies, the academic status of theorists and political standpoints.

A key outcome of my research will be to make recommendations for changes in policy and practice in adult learning support as a result of its findings. I will return to this aspect in the final chapter of the thesis.

In the next section of this literature review I turn to wider and more far reaching reviews of the subject area from the academic world of research.

2.3 Overarching reviews of the subject

In 2002 the Department for Education and Skills (DfES) (which then had jurisdiction over English education) commissioned the establishment of the National Research and Development Centre (NRDC) for adult literacy and numeracy, as part of a "Skills for Life" improvement strategy. This organisation, comprising a consortium of English universities, adult education providers and advisory bodies, sponsors research with the aim of improving teaching practice and informing government policy. As part of a major theme of investigating the nature of adult learners' reading difficulties, it published the results of an exploratory study (Besser *et al.* 2004). Rather than reviewing the relevant literature themselves, the authors claimed that "the work had largely been done" (p. 11) by a prior review carried out on behalf of the US National Center for the Study of Adult Learning and Literacy (Kruidenier 2002). The purpose of this US study was to extract a set of principles for educators and policy makers, and to identify useful leads and gaps in the research.

At the time of the main phase of my research the review was seven years old. However, a similar working party reconvened to update the review (Kruidenier *et al.* 2010) In the original paper, Kruidenier (2002) summarises the findings of a working group which looked at 50 research studies, distinguishing those that used experimental and non-experimental methods (experimental being defined as research using control groups). The working group also made comparisons with a similar study into school-aged children's reading, and included a further 22 papers from this sector, deemed to have messages relevant to adult practice. They considered four particular **characteristics of reading** as summing up the skills required for adults to be competent readers. These aspects were also picked up in the English study (Besser *et al.* 2004, *op cit.*):

- alphabetics (phonemic awareness and word analysis);
- fluency (speed and accuracy);
- vocabulary (understanding a range of words and their meaning in context);
- comprehension (the purpose of reading).

The paper presents their findings extremely systematically and coherently, with different weightings for:

- *emerging principles* (defined as supported by the most rigorous studies);
- *emerging trends* (less well supported);
- *ideas* – from research with children that might be usefully applied to adults.

They identify 18 emerging principles, 32 emerging trends and 22 ideas worth following up. More credence is given to intervention studies “using an experimental or quasi-experimental design”, non-experimental methods “based on a sound analytic framework” and qualitative studies that “collect data using multiple methods and use

triangulation.” (p. 23). The validity of this stance will be discussed below.

The report of Kruidenier’s working party is widely cited in subsequent studies and has clearly influenced research and practice in the USA. Several leads have relevance for my research, such as Principle 1 (p. 39): “...that (ABE)” [Adult Basic Education] “readers...are very diverse and that any one measure of reading achievement may not be sufficient...” and Trend 20 (p. 94): “With adult readers at the intermediate level... a meaning-based diagnostic-prescriptive approach to teaching may lead to increased reading comprehension achievement.” For this reason, it seemed a worthwhile challenge to follow up Kruidenier’s literature review, to see how far the US working party’s findings are applicable to the United Kingdom and to explore some of Kruidenier’s categorisation of components of reading.

However Kruidenier (2002)’s findings and recommendations have not gone uncriticised. Weiner (2006) challenges a study that ignores research that is not considered scientifically based, because this also excludes consideration of the complex social setting for adults’ reading. In particular he claims Kruidenier’s view of reading comprehension is unduly simplistic and promotes a deficit model of illiteracy where the person is the problem rather than the socio-cultural context. While one can accept this as a limitation, Weiner is also unreasonably critical of Kruidenier for including so many studies of child-based research, given the dearth of findings from adults. Kruidenier is actually quite clear in separately designating ideas from school research and offers cautions on extrapolating findings from children’s studies to adult education.

Belzer and St Clair (2005) also question the validity of Kruidenier's conclusions based on a "surprisingly small sample of studies" (p. 1405) and the report's neopositivist stance that looks for single best answers to issues rather than how practitioners can best implement the findings of more eclectic research. Furthermore, even researchers who value the "gold standard" of randomised controlled trials uncover methodological weaknesses in such studies and a tendency to favour publication of research that reports positive as opposed to null or ambiguous findings (Torgerson *et al.* 2003).

The uniqueness of the Kruidenier (2002) review is that it seeks to summarise the impact of research specifically relating to **adult literacy** (not child literacy or more general theories of reading, which will be discussed later in this chapter). One might question whether the four components together are either necessary or sufficient to constitute a model for adults' reading. The methodology of the review is such that it only considered factors where there was a sufficient body of prior research to justify their conclusions. Other aspects, such as learner characteristics (p. 111) and teaching strategies (p.112) are generally discounted by the working party in drawing up their principles.

The later version of this review (Kruidenier *et al.* 2010) used similar criteria for selecting research papers and retained the same terminology for reading instruction components. It changed the emphasis slightly by identifying positive, negative and neutral findings as opposed to principles and trends, though in many cases the wording of these findings is identical or very little changed from Kruidenier (2002). Including more recent research also gives several interesting new insights. For instance, it includes findings for second language speakers (though this is very specifically contextualised to

the USA), makes useful comparisons between adults' and children's reading (p.20 and *passim*) and in its conclusion strengthens the call for detailed learner assessment profiles. Of most interest are the changes in nuance between the four different components. Kruidenier *et al.* (2010) gives more detail within alphabets on word analysis skills (as well as phonemic awareness). There are more positive findings for reading fluency, and an enhanced discussion on fluency instruction, reflecting a change of emphasis in more recent research. Several new findings for vocabulary development are cited, especially from second language instruction (pp.23-24). Discussion of comprehension includes an important link between reading and writing instruction. The overall style of the report is more discursive and it ends with concrete recommendations for a future research agenda.

The Kruidenier reviews have remained central to my investigation, and as such are taken up in my third research question, exploring the impact of different forms of intervention based around Kruidenier's 4 main components (see Chapter 3). It will be useful to evaluate how useful the four components are either as a framework for designing interventions or in providing measures of progress adults make. A clear rationale for the intervention phase of my study was to design some novel approaches to support for adults' reading skills based on those 4 components, to test out the usefulness of this categorisation. As I will explain later in this thesis, although I used Kruidenier's thinking as the starting point in designing different types of guidance sheet, the ideas on the sheets themselves are also founded on other people's research, so as to strengthen their validity. In section 2.7 of this review I give more detail on the nature of the four components, previewing how I use them in my research. There is a benefit in

following up research that gives clear choices of strategies to explore rather than testing one approach in isolation.

The basis for Besser *et al.*'s (2004) research in the UK was sampling the range of reading instruction. It consisted of a series of observations of 27 adult literacy sessions to establish which approaches to reading were most commonly used and which worked best. They found that "focused reading instruction" occurred for only a small proportion of class time. Teachers employed relatively few strategies overall and used a narrow range. Much of the phonics teaching was done on an *ad hoc* basis and there were instances of tutors' use of "inaccurate phonics teaching." (p. 74). With current moves to professionalise the workforce in adult literacy teaching, this deficiency cannot go unchallenged. The researchers, many of whom are themselves practitioners, trained by a team from Sheffield University, put forward a plea for more reading instruction. Although aware that adult learners are more likely to request help with writing and spelling than reading, they advocate a greater emphasis on reading, provided it is learner-centred and focuses on approaches that are "empowering and interesting" (p. 92). A further question to be addressed, however, is the relevance of systematic phonics teaching and learning for adults who may not have the time or inclination to devote to its study, given the need for more functional aspects of literacy.

A further study was completed by the same research team (Brooks *et al.* 2007), observing 454 adult learners in 59 classes – the largest study of adult reading instruction in Britain to date. Brooks *et al.* looked more closely at the range of strategies used. They rarely found practice to support fluent oral reading. As well as confirming the finding of the inadequacy of standards in phonics teaching, they

also commented on the under-use of “language experience approaches,” which are based on the generation of text from a learner’s own words, a useful technique seemingly now out of favour.

This study is also important for me, in that it uses a pre-intervention, post-intervention methodology to try to establish which factors most affected progress in adults’ reading over a period of 3 to 4 months tuition. Perhaps surprisingly, age, educational background (age of leaving full time education) and being dyslexic or not, did not correlate with changes in reading attainment. There was a small gender difference (with women improving slightly more than men), a bigger difference with employment status (those in employment making greater gains than unemployed learners). Other factors which were checked but not seen as having notable effects were ethnicity (a very small proportion of the overall sample belonged to minority ethnic groups), home language and gaps in learners’ education records. There was, however, a wide variation in the efficacy of support in different settings. Whilst being aware of individual differences in learners in, for example, motivation to study, the researchers, quite rightly, also question the skill levels of different teachers, and raise the issue of suitable teacher training. The dynamism and skills of the teacher and the quality of the relationship between teacher and learner are vital considerations in any study of reading.

In September 2007, the NRDC and the National Institute of Adult Continuing Education (NIACE) launched a practitioner guide to more effective teaching of reading (Burton 2007a). The English government’s Department for Innovation, Universities and Skills commissioned a further report on good practice in teaching reading, so as to set new policy. I was part of the consultancy group feeding

back on this issue in April 2008 and a critical reader for the next phase of Burton's research findings (Burton *et al.* 2008; Burton *et al.* 2010).

Between 2002 and 2005 in a parallel project (Brooks *et al.* 2005), researchers reviewed instruments which were deemed useful as summative assessment to evaluate progress made by learners in adult literacy and numeracy, especially with a view to their usefulness for forthcoming NRDC research. The review concentrated on tools which gave quantitative outcomes and also excluded diagnostic assessment materials including specialist instruments used to diagnose dyslexia. It established some criteria by which to judge assessment. I will return to this review of assessment in Chapter 5, when I introduce my assessment tools in detail.

The 1970s saw an important study of adult literacy which has historical value and some principles for evaluation of success that are still relevant. Jones and Charnley (1978) undertook a major initiative in interviewing a wide range of adult literacy students and their tutors. They followed this up by summarising the different factors of relevance to their success (Charnley and Jones 1979). The research is full of detailed insights into what the adult learners themselves thought counted as progress and achievement. They grouped the various improvement measures into five categories (p.37): affective personal achievements (like increased confidence), cognitive achievements (including measurable skills in reading and writing), enactive achievements (the ways they use those skills), socio-economic achievements (improvements in their well-being) and affective social achievements (using literacy to improve personal relationships). These are still useful categories. A fuller discussion of

this research can be found in my MSc thesis (Partridge 1989, Open University, unpublished). Adult literacy in the 1970s and 80s, however, was a totally different phenomenon, based primarily on the benevolent work of volunteers, rather than the professionalised and somewhat accreditation-led provision it is now. Charnley and Jones come no nearer to quantifying the *scale* of the progress, even of cognitive achievement, which might count for success. This is explored further in Research Question 1.

From the literature discussed, findings confirm the need for further research and interventions to support teachers in the field of adult reading, within which this current research is situated. In particular, the literature included in this section stimulated the thinking behind questions 1, 2, 3 and 5 of my research (see Chapter 3). They consider how to isolate the most important factors involved in enabling adults to improve their reading skills; how our use of assessment tools can affect results; how far Kruidenier's components cast any useful light on the issue and what counts as good practice in the associated pedagogy.

2.4 Theories about reading

In researching the nature of adult reading skills, it is important to be clear about the different stages that readers go through in acquiring and developing those skills. Issues will be different for adults who struggle with reading, compared with children still in statutory education and who may or may not have difficulty. The issues will also be different for each individual reader, as it is increasingly clear that there is no simple universal model for reading acquisition and development. However, before discussing such differences (in section 4.5), which will have a major influence on the design of any interventions, there follows a brief discussion of the field of reading

theory in an effort to elucidate the different aspects of reading that are important for adults.

Ehri (1999) searches for an all encompassing theory that explains the journey taken from being a novice reader to becoming a mature reader with a full set of word recognition and fluency skills and an ability to comprehend and make use of extended text. The advantage of this is the ability for teachers to be able to map a child's progress through the phases. These consist of:

- a pre-alphabetic phase, where children recall and recognise words through salient visual cues.
- a partial alphabetic stage, where the reader adds some basic knowledge of letter shapes, names and sounds. Children will almost certainly need instruction at this stage to help them deal with more complex graphophonemic relations.
- a full alphabetic phase, where children can use their knowledge to decode words never read before and are thereby building up a more extensive vocabulary of words they can recognise by sight.
- The consolidated alphabetic phase, in which the reader can use more complex letter patterns, which prove to be a lesser burden on memory and an aid to reading faster.

The model stops short of the next phase of reading extended text with comprehension and use of context cues. It also raises the question of whether it is valid to try to ascertain at what stage an adult struggling with reading might be, given a complex learning history. However, it is useful in giving indications of a possible logical order for teaching instruction, which may be relevant to adults and certainly Ehri has looked at some aspects of the adult pedagogy in her research.

“Reading is a skill, and a difficult one at that. An extended apprenticeship is required in order to master it fully,” says Ellis (1993, p.11) before going on to separate out what is needed for simple **word recognition** and the more complex task of understanding and interpreting text. He summarises a functional model based on visual analysis of the written word and comparison via a visual input lexicon with items in a more internalised semantic system, matching print to meaning. If the reader goes on to read aloud (which most models tend to assume) then there is a further stage of comparison in a speech output lexicon, where pronunciation is factored in. The assumption in this model is that a skilled reader can access meaning instantly from the look of a word, but that if a word encountered is unfamiliar on sight, a phonic system can also be employed to help out. This is sometimes referred to as “sublexical” analysis.

This sublexical analysis, which works at the level of grapheme-phoneme correspondence, can even cope with words that have no meaning (pseudo words) sufficiently for a skilled reader to pronounce them. Adults with reading difficulties almost always have problems reading pseudo words (Greenberg and Ehri 1997). Theoreticians then speculate about the degree of connectivity between the different systems for word recognition. In the Dual Route Cascaded (DRC) model summarised in Coltheart (2005), connections between the grapho-phonemic system and the semantic system run serially and sequentially, but with feedback loops. This model predicts faster speed of reading for high frequency words, for regular words and for real words (because processing is done through more direct routes), and explains some of the problems faced by people with different types of acquired reading disorders.

In the Connectionist Approach summarised by Plaut (2005), there are complex parallel interactions assumed between systems which process orthographic, phonological and semantic information in words. These connections are amenable to explanation, using computational models, which casts light on the recognition of different types of words. The whole process is a learned one. In a neatly-designed experiment to elucidate the connectionist approach, Reimer (2006) asked adult subjects to read pairs of words where a semantic link might cause an inhibitory effect on reading speed. For instance when reading BRUSH followed by TOMB (where an interfering factor might be the semantic link from BRUSH to COMB, which has a different phonology), word recognition was slower than with TABLE followed by RARE (where the semantic link of CHAIR has a similar phonic connection). Unfortunately, Reimer only tested adults with “normal” levels of reading ability, so there is no direct clarification of any additional difficulties adults who struggle with reading may encounter.

Many academic researchers whose evidence is predominantly from the laboratory are strongest and most detailed on their theorising about single word reading. They have less to say about the more complex issues involved in reading extended text. Reading an extended text is undoubtedly harder to explain, with a reader relying on **comprehension**, recall and use of inference, in addition to word attack skills to make sense of a passage. Ellis (1993) calls on “schema theory” to explain how an adult reader “brings a lifetime of experience” (p. 52) to interpret and understand text, schemata being mental constructs for organising our knowledge and thinking (for instance reading a description of a house from the point of view of either a house-buyer or a burglar can make a huge difference to what is recalled of the text).

The so-called “simple view of reading” (Gough and Tunmer 1986) proposes that skilled reading comprehension is based on good word decoding ability and good listening comprehension and that these two skills interact as a reader develops. This theory then distinguishes different types of difficulty: Those with poor word recognition have a form of developmental dyslexia, those where good word recognition contrasts with poor listening comprehension are deemed “poor comprehenders” and those who experience both difficulties are given the (in my view) clumsy and demeaning label of “garden variety” poor readers. The theory, as its name implies, does not seek to deal with the nuance of the different ways word recognition skills develop in conjunction with reading comprehension, nor the complexity of the construct of comprehension itself. Savage (2001), however, draws on the theory in a pragmatic way, discovering that assessments of listening comprehension are better predictors of teenagers’ and young adults’ reading comprehension than some other diagnostic measures. Cain (2010) charts a much more complex pattern of factors involved in reading comprehension and hints at a dissociation between skills that predict word reading and comprehension over time (though her longitudinal studies only so far look at children).

Kintsch and Rawson (2005) start from a linguistic model for reading comprehension, examining structure and situation in the text itself and speculating as to how a reader might analyse, make sense of and recall these as mental representations. Perfetti *et al.* (2005) analyse reading comprehension skills as including detailed monitoring of text for semantic and syntactic sense, an ability to draw inferences from text, having a good base of vocabulary (individual words and their meanings) all of which have an inevitable burden on working memory. There are, it seems, lots of ways in which reading

comprehension can go wrong. This also depends very much on the type of text to be read, the social context in which the reading takes place and the reader's prior conceptions or schemata. Each encounter with text is in itself a "literacy event" (Heath 1982, p.93) of which a reader has to make sense.

Another aspect of comprehension is the level of knowledge of the reader, which can affect their ability to draw inferences, a factor taken into consideration in Kintsch and Rawson's model, along with a facility to draw on that prior knowledge effectively from their long-term memory to working memory. Expert readers, according to Kintsch and Rawson (2005), are those who are "fluent decoders who easily organize detailed information into a hierarchical macrostructure, and who possess rich, well-elaborated knowledge of word meanings" (p.225). By contrast, a novice comprehender has to expend a lot of effort to get the same result. A series of experimental studies have taken this theory and examined the practical impact of different factors on novice and expert comprehenders' ability to deal effectively with text (Leon and Perez, 2001; Veenman and Beishuizen, 2004, for example). These go some way towards confirming the advantage that being an expert has on reading ability, but have limited transferability to a study of adult literacy. The nearest equivalent is a passionate interest in a subject which helps an adult reader make more sense of a text than one they know little about. It also has importance for the design of assessment and selection of appropriate texts that neither unduly advantage nor disadvantage the reader and so give a skewed result.

Of just as much importance are the characteristics of the text itself and its readability. Marie Clay, evaluating the survey work that led to her seminal "Reading Recovery" programme (Clay 1985),

emphasised the importance of choosing a text of the right level of difficulty. She favoured texts that allow 90-94% accuracy, which she designated as “instructional” and insisted that it was critical to check this for each reader and each text. Gickling and Armstrong (1978), exploring the link between reading accuracy and comprehension, defined “frustration level” as representing less than 93% accuracy, 93-97% as “instructional” and 98%-100% as “independent reading.” Following up this research more recently, Cramer and Rosenfield (2008) were interested in the accuracy of assessment and the impact this has on teachers’ ability to select the right strategies to support a learner’s needs. Their subjects (children at the American fourth grade, past the initial stages of reading acquisition, and so more relevant as a comparator for adult literacy) read different passages designed to elicit Gickling and Armstrong’s three levels of challenge. The researchers found a strong correlation between reading speed and word accuracy where passages were at a frustration or instructional level, but not for reading at an independent level of challenge. They expected to also find a correlation between reading speed and comprehension, but this was not substantiated. Cramer and Rosenfeld questioned the validity of their own way of measuring comprehension (a topic I will pick up in answering research questions 2 and 3).

Stanovich (1986) reminds us that there is an important link between word recognition skills and reading comprehension. Readers with efficient word recognition skills have relatively more cognitive resources and working memory capacity to devote to comprehension than poorer readers. Ouellette (2006) extends this by pointing out that effective readers need a good range of **oral vocabulary** and overall language comprehension skills to enhance their reading.

It is important when evaluating research as technical as the studies cited so far in this section, often based on quite a narrow range of experimental subjects and settings, not to neglect the wider aspects of literacy. Barton (2001) provides an overview of "Literacy Studies", a movement that grew up as a result of "dissatisfaction with conceptions of reading and writing....based on over-simplistic psychological models" (p.93). The emphasis of this approach serves to remind us that reading is a social phenomenon, occurring in different real life **contexts**, comprising different textual forms and influenced by the cultural and educational background of the reader. Literacy Studies research uses and expands on the term "literacy event" to encompass the many aspects of reading (e.g. who is reading with whom, what is the power relationship, what is the significance of the text, what are the circumstances surrounding the reading). We have to be aware that reading is a dynamic event, where the reading of a text (and so the ability to read effectively) can change things - people's perceptions, people's beliefs and, on a wider stage, people's social, economic and political standing. Gee (2000) has an evocative metaphor for thinking about literacy in this way. "Words and context are two mirrors facing each other, infinitely and simultaneously reflecting each other." (p.190). This makes it even more crucial to be aware of and evaluate research findings that come from the world at large (with its diversity of contexts) and the experimental laboratory where the context is artificially constrained. Even in a piece of research as small scale as mine (in terms of learner numbers), one needs to reflect (and reflect on) the background of the learners (their exposure to literacy as children, their position in society) and the impact that reading particular texts will have on them.

All of the theoretical features discussed in this section are factors to consider in designing programmes to support adults' reading skills. The next section will consider what might go wrong for adult readers and the impact of their prior experience of learning.

2.5 Dyslexia as a source of difficulty in reading

This study is primarily about the range of adults' reading difficulties rather than about dyslexia, which is one possible source of those difficulties. It does not seek to enter the debate as to whether there is a difference between dyslexia and "garden" varieties of reading disorder (Stanovich, 1988, Share, 1996). However, a literature search should include at least a flavour of the thinking that underlies studies of adults with dyslexia and their problems with reading.

Snowling and Hulme (2005) state that "a consensus has been reached; phonological coding is central to word recognition" (p. 5), implying that phonological awareness is a necessary condition of reading acquisition. This stance has strongly influenced definitions of dyslexia, as a specifically phonological deficit. However, factors involved in developmental dyslexia, as it presents itself in *adulthood* need to be examined further here, if we are to understand how best to help struggling readers compensate. In my view, even if it is deemed a necessary condition, phonological awareness is not sufficient. Furthermore, there is more to reading than just word recognition. We must also explain what goes wrong when adults have faulty comprehension skills for dealing with sentences and extended text.

When it comes to defining dyslexia in adults, there is still a vigorous and healthy debate. Rice and Brooks (2004) review research on dyslexia as it affects adults and systematically outline the variety of

theories, most of which are descriptive rather than definitively causal in nature. They conclude that many of the differences in definitions proposed are artefacts of the research methodology employed.

The Rose report on dyslexia in children and young people contends that “dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling,” (Rose 2009, p.30) dismissing other “co-occurring difficulties” as “not, by themselves, markers of dyslexia. It is beyond the scope of this thesis, which is, after all, about reading, to dispute the adequacy of this definition for more general use with respect to adults. Its central point about the impact of dyslexia on accurate and fluent word reading is uncontentious, but in my view does not go far enough.

Frith (1999; 2002) usefully reminds us that features of dyslexia manifest themselves in different ways, according to the conceptual level at which they are addressed: biological, cognitive and behavioural. She “tests out” various theories in hierarchical diagrams to literally see if they have explanatory power at each of the three levels and argues for an open and eclectic approach to research, whilst also making clear the impact of environmental factors. The environment in which a dyslexic learner exists is implicated in their response to language (is the language orthographically regular, have they been well taught) and their individual differences (in personality, in cultural background, in the “severity” of their difficulties and in the degree to which they have been able to develop compensatory strategies by adulthood). A researcher needs to be aware of the subtle interactions between environmental, behavioural, cognitive and biological factors in analysing and interpreting data and postulating theories. Frith is also practical in pointing out that

behavioural and environmental factors are most important in designing programmes of support to help learners.

Ellis (1993) concentrates on the cognitive level in describing four different sub-types of dyslexia, as they apply to reading development. "Phonological dyslexia" characterises learners who have fundamental difficulties with tasks, such as reading pseudo words, which require phonological processing and preclude solely lexical analysis. Ellis describes two adults with this type of dyslexia, who nonetheless developed compensatory reading strategies and study skills and graduated from university. By contrast "surface dyslexia" is characterised by the ability to read regular words, through sublexical analysis, but having a problem in recognising words as a whole by sight. In acquired dyslexia (caused for example, by illness, head injury, stroke) so called "deep dyslexia" leads to specific problems with semantic errors when reading, an inability to read pronounceable nonwords aloud and a greater difficulty with abstract words. Finally, Ellis labels poor reading comprehension coupled paradoxically with good word recognition skills as "hyperlexia", a term coined by Silberberg and Silberberg (1968)

Wolf and O'Brien (2001) highlight the so called "double-deficit hypothesis", whereby it is possible for dyslexic readers to show **either** phonological processing difficulties or visual recognition difficulties (tested through word naming speed) or a combination of **both**. What is perhaps even more interesting is the subtle variation in the proportion of phonological and visual cueing that adult readers employ, and whether there is a way of harnessing these individual differences in practice. The fact that this theory is designated by the term "deficit" is in itself significant, when we might want to focus more on utilising a pattern of strengths.

Wolf's more recent book (Wolf 2008), however, concentrates more on the positive. In a chapter exploring dyslexia, Wolf considers the issue of children who manifest difficulties with reading. Refreshingly, she highlights the diversity of **individual differences**: "An understanding of the principles of brain design in reading moves us away from any one-dimensional view of reading disabilities." (p.188), going on to explain in layman's terms the subtype of dyslexia that her own research has led her to explore, involving a double deficit of naming speed and phonology (p.189). This difficulty implicates three of the four Kruidenier components, **alphabetics** (decoding for Wolf), **fluency** and **comprehension**. Although she does not go on to examine the implications for adult readers, Wolf's account is a good reminder of the importance of an eclectic approach and a practical stance on individualised support for reading.

In my initial study I hypothesised that one of the learners (C) was possibly hyperlexic. In the main study, a similar pattern was found for learner ML1 (who has been assessed as dyslexic) and possibly ML4 and ML8. However, each learner has a unique pattern of strengths and difficulties on which to base the choice of support strategies.

It is important to note that while problems **acquiring** reading skills may seem to be linked in most cases to deficiencies in phonological processing, there are other factors that impact on further **reading development**. Vellutino and Fletcher (2005) acknowledge "complex interactions between naturally endowed cognitive abilities" and "literacy experiences and instruction" (p. 377). This has particular significance for interventions with adult readers, who come with such diverse learning histories.

2.6 Issues concerning the differences between adults' and children's acquisition and maintenance of reading skills

Before considering the differences between children and adults with respect to reading, it is useful to reflect briefly on theories about what is unique about adults' learning. Both implicitly and explicitly my research is influenced by some of the major thinkers in this field.

Freire's approach to teaching adults is based on the premise that pedagogy should be both radical and critical, giving students "the opportunity to use their own reality as a basis of literacy" (Freire and Macedo 2005, p.104) and to reflect on their own learning. This thinking underpins the methodology for adults' learning (setting literacy in context, like the movement for "situated literacies" discussed in section 2.4) and also acts as a political end for literacy development. Freire encourages teachers to form an active partnership with their adult learners, a central tenet of this current study.

Knowles (1984) preferred the term 'andragogy' to distinguish what is special about adults' learning compared with children's, although critics have queried whether all of the features of andragogy are exclusive to adults. They are:

- self directive learning,
- life experience used as a resource for learning,
- learning related to changing social roles,
- applying knowledge to problems,
- internal motivation.

Jarvis (1995) argues that this does not constitute a theory of adult learning but acknowledges that it has strongly influenced practice in adult learning circles (for instance, learning contracts and, more recently, individual learning plans). He also favours the term

andragogy as descriptive of the body of knowledge about adults' learning as distinct from pedagogy.

Merriam (2001) also criticises the lack of inclusion of context in the framework of andragogy, but, along with the model for 'self-directed learning' (stemming from Knowles and his colleagues and articulated in Tough, 1967) sees a continuing use of such theoretical constructs as useful. Among the topics she raises for future research is the issue of whether a learner changes with respect to self directed learning as they move from "novice to expert in subject matter and learning strategies" (p.10). Although the method of intervention used in my research is intensive and directed by the tutor, we should also seek to develop learners' autonomy.

It is my contention that there is something different about the way adults develop reading skills compared with children acquiring literacy for the first time. In this context, theories about adult learning, however incomplete, help elucidate why this might be the case.

I have already identified that the body of research covering adult reading skills is lamentably small. Several researchers have, however, considered the differences between adults and children on indicators of reading ability, often using samples of adults and children matched for reading level.

In an interesting review article, Pogorzelski and Wheldall (2005) summarise different theories of **reading development** and the differences in children's developmental patterns. Older children who had been assessed as having initial phonological problems were still amenable to an intensive programme of reading interventions

(covering phonics, sight word instruction and reading meaningful texts) pointing to a **delay** in development (or ineffective early teaching) rather than an absolute deficit. This research also emphasises key socio-economic factors, such as the educational level of parents, and instructional factors in predicting reading performance, which is as true of adults as it is of children.

Bruck (1992) compared dyslexic adults and children against controlled samples of non-dyslexic adults and children. She found that dyslexic subjects of all ages performed less well than the control group on tests of both **phonological and orthographic processing** regardless of reading level. This finding is important, because it had previously been thought that adults with dyslexia who had mastered reading must also have conquered phonological processing difficulties. Ransby and Swanson (2003) used the same phonological tasks as Bruck (1992), but added tests of reading comprehension, oral language, working memory, and vocabulary. They were looking in particular to see if dyslexic adults used higher level language skills to compensate for poor word recognition when it comes to reading comprehension. The findings appeared to show that while phonological skills are still important in predicting higher scores in reading comprehension, other factors, such as listening comprehension, working memory, vocabulary and general knowledge accounted for more variance in performance. In my main study, for instance, learner ML8 seemed particularly hampered by the paucity of her general knowledge and life experience (See section 8.3). Ransby and Swanson recommend interventions that balance phonic instruction and other higher-level reading-related skills.

Scarborough *et al.* (1998) found that even supposedly normally reading adults who were on teacher training courses had limited **phonological awareness** (albeit on a slightly confusing written segmentation task), raising the question as to whether it is possible to become a competent reader without phonological skills, or whether such skills are lost as adults. There is an interesting side link also here to the finding in Besser *et al.* (2004) that some adult literacy tutors are found to be incompetent to teach phonics and have received little or no training to do so.

Lehtonen and Treiman (2007) follow up and refine Scarborough's (1998) finding that adults have poor awareness of phonics, highlighting instead "the flexibility of adults' strategies. Although adults are capable of phoneme-based processing they sometimes fail to use it." (p.95). In what seems a well-designed study of college students, an experimental group was trained in phoneme counting and a control group worked on a word counting task. When tested, the control group and those students with smaller vocabulary ranges used onset rime segmentation in a spelling task rather than phoneme manipulation. The researchers note that adults can pick up phonics given minimal training, but this strategy is "not necessarily natural for all skilled readers." (p.111). Adults are more likely to pick up on the influence of letter names and "sonority" (the way vowels seem louder and have the capacity to bind either to the consonant before or after) in making judgements about words. Of most importance to my study, the pinpointing of the difference between reading acquisition and development of advanced reading skills is brought out well in this article. Lehtonen and Treiman state that, "although learning to read probably requires and fosters a certain level of phonemic awareness, advanced reading skills may promote use of letter chunks that represent larger than single phonemes." (p.111)

Gottardo *et al.* (1997) report on one of the few studies that tried to replicate findings about phonological awareness in children for adult readers. Taking two groups of Canadian adults representing “low ability” adult readers (at or below the 25th percentile on a standard test of reading) and those with higher level reading skills, they found, not surprisingly, that the lower level group performed significantly worse on all of their experimental tasks, but also that “phonological processing ability was found to be a consistent and unique statistical predictor of reading in adults” (p.51).

Eden *et al.* (2004) found that 8 weeks of training in phonological awareness given to groups of dyslexic and non-dyslexic adults had a positive impact on phonemic awareness and nonword decoding (perhaps predictably), plus accuracy in reading extended text. However, there was no improvement in tests of real word recognition, reading speed or comprehension, limiting the overall impact of this form of training. Interestingly, they also detected increased brain activation levels in sites associated with reading (the left and right parietal lobes) giving encouragement that the adult brain has continued plasticity and is amenable to the effects of the multi-sensory training featured in this study.

Shaywitz *et al.* (2006) use functional magnetic resonance imaging (fMRI) to show differences in brain activity between young dyslexic adults who have developed compensatory strategies for reading and those that have not. They hypothesise that **neural pathways** can be changed through effective reading interventions.

One major difficulty in interpreting the often conflicting or confusing results of such studies is the use of artificial tests and constructs of reading skills in an experimental context. Most of the experiments

discussed in this section use such tests. Belzer and St Clair (2005) eloquently question the validity of such “tests of reading nonsense words and syllables and other decontextualized applications of literacy skills” (p. 1407) when making recommendations on policy and practice for adults.

Coles (2004) has a more fundamental objection to theories of reading based on the experimental study of “brain glitches.” He points out the false reasoning involved in associating particular reading difficulties with abnormalities observed in particular brain areas. He cautions the researcher to examine more thoroughly the multiplicity of “contextual causes” of poor reading that he, as an experienced educational psychologist, has observed over the years. In my view, the validity of brain imaging research is still questionable on a number of levels; the relative crudity of the tools, the still underdeveloped understanding of brain function and the oversimplification when deciding what is background electrical activity versus something evoked by a particular physical or cognitive activity. However, studies that show the possibility that tuition and support for reading can develop new neural pathways and connections, as Eden *et al.* (2004) and Dehaene (2009) suggest, offer encouragement for practitioners. Coles, though, justifiably worries most about the political significance of educational policies that emanate from a one-sided understanding of the latest research. He argues for a balanced approach to reading pedagogy that takes into account all the factors.

Greenberg and Ehri (1997) work hard to extrapolate beyond their findings **from experimentation to practical policy**. They found that children are significantly better than adults (matched for reading level) at phonological skills and spelling, but adults read more sight

words. Adults showed a more varied skill profile within their sample, reflecting their wider educational and life experience. The researchers argue that phonological deficits may hold readers up at the initial stages of learning. Such problems can persist into adulthood, but if learners have adequate exposure to real reading then they develop wider vocabulary and remember more distinctive letter patterns visually. Five years later, the same research team (Greenberg *et al.* 2002) implemented a support programme for adults with reading difficulties, which will be considered in section 7 of this review.

Research by Jones *et al.* (2008) features another aspect of adult reading skills. Testing “high performing dyslexic” and non-dyslexic adults on a range of reading, rapid naming, phonological awareness and spelling tests they found a strong correlation between performance on these and on **visual attention** tasks. They propose that “serial processing of letters is required” even when reading phonically regular words. Jones *et al.*’s theory is that visual attention and rapid naming skills are “an important precursor to literacy development” (p.112) as well as phonological development. Support strategies need to encompass a range of multi-sensory approaches, in tune with each learner’s complex pattern of strengths and difficulties.

Following on the theme of the diversity of routes towards expert adult reading, Nation (2008) claims that, although “phonological awareness is a reliable predictor of **learning to read**” (p.1122), we should have a tripartite model for **more advanced** word recognition skills based on checks for orthographical, phonological and semantic similarity with words we have come across before. We need to build up a store of words in our episodic memory based on previous

encounters with words. Of course, a struggling reader will be doubly disadvantaged in this respect, by having a limited stock of prior reading experiences. Adelman *et al.* (2006) have worked on what makes words memorable. They find that simple high frequency of encounter is not enough, but the word has to be seen in different contexts over time. This challenges previous reading theory that suggests that we might have separate lexical stores for orthographic and phonological forms. If context is also important, then there must be a unifying feature of memory that links all these aspects.

Stanovich (1986) explains his coining of the term the “**Matthew effect**” (based on a biblical allusion to the fact that the rich get richer and the poor get poorer). For poor readers this consists of a downward spiral of disadvantage. Lack of effective reading skills leads to limited access to knowledge and further delays in the automaticity of word recognition. If this spiral continues, then clearly the adult will be socially and economically hampered. Even in a world of technological advances, a variety of reading skills are still often a key to acquiring information and so economic prosperity. Torgesen (2001) claims that it is hard to close the gap in reading fluency once a child is significantly behind. Yet many adults with dyslexia develop notable **compensatory skills**. Fink (1996) gives case studies of 10 high achieving people who made significant breakthroughs in their reading, often as a result of a passionate interest in a subject that led them to practise hard and develop specialist vocabulary. In the next section we will consider what particular facets of reading are important for an adult struggling with reading to improve.

2.7 Particular facets of adults' reading skills and ways to measure progress, following on from Kruidenier (2002) and Kruidenier *et al.* (2010)

I have chosen deliberately in this study to evaluate the usefulness of Kruidenier's components, both as an aid to designing intervention tools and as a means of measuring progress. It is worth considering the research that has been conducted more recently on reading components, firstly to explore what these terms signify and in the next section to examine other factors involved in a pedagogy for improving adults' skills in these areas. McShane (2005) interprets the findings from Kruidenier (2002) giving adult teachers a guide for instructional practice. She adds one extra component in the requirements for reading, namely a **motivation** to read. This may be similar to Chapman and Tunmer's (2003) emphasis on the need to bolster self-belief in struggling adolescent readers.

There is quite wide variation in the tools researchers use to measure and interpret **phonological awareness and other alphabetic skills**. Research of this aspect beyond initial acquisition of reading skills and even more so for adults is sparse. Bruck (1992) looked at syllable counting, phoneme counting and phoneme deletion (both onset and rime) in the study discussed in section 2.6. Pennington *et al.* (1990) using phonological tasks to explore skills, found a clear deficit in phonemic awareness among dyslexic adults, but this may, at least partly, be attributed to the complexity of the tasks. Jiménez and Venegas (2004) point out the hidden differences in the levels of complexity of tasks experimenters ask subjects to perform. These will inevitably skew test results and affect the way we describe the construct of phonological awareness. In their own study of Spanish adults with low literacy levels, they discovered that there was a strong link between performance on tasks of phonological awareness

and ability to read whole words. Unsurprisingly, since Spanish is a more phonically regular language than English, this reminds us that the context of language is also crucial when interpreting findings.

Booth and Perfetti (2002) found something of an effect for onset and rime with *adults* in a test of speed of word recognition. Their conclusion is that adults start with phonemic decoding for the onset and then make use of a visual analogy from the orthographic pattern of the rime. Interestingly, they mention that this effect is not so prevalent in more phonically regular languages such as Dutch or Korean, where there is less need for making such analogies. It may, however, be a life-saver for adults struggling with English.

It is important to be aware of the difference between **reading silently** and **reading aloud**. Holmes (2009) gives us a salutary reminder of this, given that most research (and much assessment) relies on reading aloud. She surmises that a silent reader is more likely to use the orthographic properties of a word for recognition, when not also having to stop and retrieve its pronunciation. Her study is notable too for the finding of a strong correlation between word recognition skill and comprehension efficiency; “effective and automatic word identification liberates resources for effective higher level processing” (p. 320), specifically orthographic rather than phonological recognition. Holmes gives us confirmation that adults’ strategies are significantly different from children’s. In adulthood, “an individual’s phonological representations of words become increasingly influenced by their spelling knowledge” (p. 321).

McShane (2005) cites good alphabetic skills as being vital for reading fluency and necessary but not sufficient for good reading comprehension (chapter 2). However, in their study of adult literacy

learners in England, Besser *et al.* (2004) found an approximately normal distribution of scores on their tests of phonological awareness and their analysis failed to find a reliable correlation between phonological awareness and comprehension skills, pinpointing the different aetiology of these skills. Significantly, this study highlights the usefulness of drawing up individual profiles of adult learners against sub-skills, in the context of broad bands of scores (high, medium and low) rather than making inflexible generalisations.

The work of this research group culminated in a very useful practitioner guide to phonics and fluency (Burton *et al.* 2008) and a manual for adult literacy tutors wishing to gain the underpinning knowledge of phonetics in order to teach more effectively (Burton 2012).

Much less work has been done on **fluency** instruction. Kruidenier (2002), who defines fluency as a combination of speed and accuracy in reading, only found two studies in the field of adult literacy addressing fluency, though there are several new studies cited in Kruidenier *et al.* (2010). Wolf and O'Brien (2001) relate performance on rapid naming speed tests in children to later reading fluency. They explain naming speed as a bringing together of sensory and representational cues (in the case of words, involving orthographic, phonological and morphological aspects), tied in with memory retrieval processes. Any one facet going wrong, either alone or in combination, can have implications for fluent reading development. Winn *et al.* (2006) describe lack of fluency as a de-motivator to adults' reading, where, the more effort and time reading takes, the less likely they are to choose to read. Burton (2007a) defines fluency as "rapid, accurate and expressive reading, with the momentum unbroken by the need to decode" (p. 7). She thus takes the range of

the term beyond single word decoding covered by Wolf and O'Brien (2001).

McShane (2005) deems fluency also to be necessary but not sufficient for good reading comprehension, the thinking perhaps being, as Stanovich (1986) points out, that poor word recognition skills leave a reader less working memory capacity for recall and understanding, especially if they have not developed a sufficiently robust schema for the content of what they read. Whereas oral reading fluency instruction has been part of adult literacy support in the USA for the past few years, it is far less common in the UK (Burton 2007b). In an attempt to redress this, Burton recruited practitioner researchers to trial active intervention methods, including paired, echo and choral reading, repeated reading and performance reading. Despite initial misgivings, teachers valued the approach as an aid to reading comprehension and saw notable progress.

Sandra Nes Ferrara (2005) reports on a study offering interesting parallels with my own research. First, it is an example of case study research (single subject, "changing criterion design"), starting, like my study, from baseline data about a learner, followed by an instructional phase, a maintenance phase and evaluation based on a repeat of reading assessments and a self-perception scale. Secondly, it is a study of the impact of instruction and practice on fluency in reading. Nes Ferrara worked over a period of 11 weeks, one-to-one, with a 12 year old girl lacking in confidence and motivation for her reading, which affected her ability to make adequate progress at school. The intervention consisted of each of them reading alternately (the researcher providing a role model of good reading), the researcher supplying words the subject struggled with after just 3 seconds, when it was her turn to read, and

discussion of the reading. In a phenomenological approach to research Nes Ferrara treated the girl as “a true participant”, consulting her, for example, over increasingly raised targets for reading speed. She improved from a baseline of 84 to 140 words per minute, with no diminution of accuracy. Finally, of relevance to the evaluative aspect of my research and applications to assessment practice, Nes Ferrara expresses dissatisfaction with the assessment of comprehension she chose (a randomised and multi-choice form of cloze procedure), which was not good for differentiating progress on this aspect of reading.

Cooper (2009) reports on a pilot phase of a study of Cole (2010)’s “SuperReadingTM” course involving dyslexic adults. This course has influenced some of my thinking on fluency and my guidance sheet (F1) for assisting learners with tracking skills. Following 6 three-hour sessions of training, covering techniques for faster tracking of print, preview and review of reading materials, memory enhancement and structured practice, Cooper and Cole found highly significant ($p < 0.001$) improvements in reading speed and comprehension. The effects extended both to dyslexic readers who had below average word recognition skills initially and to those with at least average scores on reading tests. The researchers specifically make links between reading skills and comprehension (coining an index of reading effectiveness calculated by multiplying percentage comprehension with speed in words per minute, which I replicate in my study). As well as the impact of improved visual tracking, it seems likely that the strategy of read, question, re-read, question (an enhanced previewing technique) is a useful intervention tool, though not one I had the scope to replicate in this study. It is worth bearing in mind that Cooper and Cole’s research has not had the benefit of an independent review. The findings need to be viewed with caution.

Bell (2001) also looks at the link between **speed and comprehension** for bilingual adults studying English. As well as a trade off between speed and comprehension he discovered that high interest “extensive reading” of real books had a more beneficial effect on reading than traditional study of grammar and prosody in English as a Second Language (ESL) classes. This point about reading real and interesting books makes sense for adults of all backgrounds not just ESL.

Good levels of **vocabulary**, claims McShane (2005), are vital to reading comprehension. Braze *et al.* (2007) set out to test a “lexical quality hypothesis” (p. 226) that states that “word knowledge” is as important as decoding and general language ability in simpler models of reading. They gave young adults, aged 16 to 24, a range of reading tasks, including tests of fluency, vocabulary and decoding of nonwords, alongside reading comprehension. They found an expected correlation between fluency and overall reading skill, and a small but significant amount of variance in comprehension skills attributable to knowledge of vocabulary. This is another example of Stanovich (1986)'s finding that the more you read the better you get. Torgesen (2001) also points up a lack of reading experience and, in particular, limitations in sight vocabulary as a barrier to fluency. He found this in the context of reading extended text, not just single word recognition, which sets this research more in the practical domain of functional adult literacy. In saying that, “vocabulary is vital to reading comprehension at all levels,” McShane (2005, p.14) explains that learners need to deepen their knowledge of words in the context of tackling extended texts. This is a skill that may need to be taught. Ambe (2007) found vocabulary extension a useful technique for reluctant adolescent readers. Through a series of practical strategies

working on key words, she succeeded in enhancing learners' skills and motivation.

Comprehension is both the desired end product of reading and a skill in its own right, related to extracting meaning from individual words, phrases and whole texts. Kruidenier (2002) states that comprehension is a "strategic process and these strategies can be taught" (p. 82). Hunt (2002) cautions against an approach to reading tuition that focuses exclusively on word recognition skills. He advocates "critical literacy" as a tool enabling readers to explore and take account of a full range of textual features and contexts in generating and extracting meaning. Yet in adult literacy classes in England explicit comprehension strategies are rarely seen practised (Brooks *et al.* 2007), beyond somewhat passive answering of target questions on a text. Bell and Perfetti (1994) compared different groups of adult learners (low ability non-dyslexic poor readers, high and low attaining adults with dyslexia and college students with reading levels appropriate to their course). They found a close connection between comprehension of oral texts and written text, concluding that reading comprehension is linked to general language ability, as well as word recognition skills. Interestingly, they also found differences according to the levels of text read. Word recognition skills were more important the greater the complexity of the text. This is a salutary reminder that contextual factors and text types are an important factor in experimental design and when devising support protocols for adult reading skills.

Schiff (2004) works to improve students' competence in reading their course materials. She applies two important principles. One is to emphasise the metacognitive aspects of reading (using a very interesting "think aloud procedure"). The second is to construct

detailed learner profiles concentrating on strengths and best strategies for each learner. Pannucci and Walmsley (2007) apply similar principles to a group of adults in a family learning project. Following interviews with 33 adults, identifying their unique patterns of strengths and difficulties, they put together an imaginative programme of support, covering high interest material, motivational and metacognitive techniques, use of technology and effective means of giving immediate and substantive feedback. They value the impact of individualised and problem solving approaches to learning

2.8 Other factors involved in a pedagogy for improving skills

There are a number of other features of effective practice in adult literacy teaching and learning worth commenting on here, with evidence from research and existing practice.

It has already been mentioned that **high interest reading material** is likely to lead to greater motivation and significant breakthroughs in adults' reading (Fink 1996). Alongside this is close attention to an adult's **real life needs**. McShane (2005) urges teachers not to concentrate on phonics instruction to the detriment of functional literacy skills. In devising strategies to motivate adolescent readers to increase their vocabulary, Ambe (2007) emphasises taking a relevant context for a learner's studies and interests, and while working systematically and intensively, still making learning **enjoyable** and stimulating. This is a particularly important factor in motivating adult learners.

As a result of their survey of English adult literacy classes, Besser *et al.* (2004) also advocate fuller use of diagnostic assessment to tailor instruction to individual learners' needs. They devised a useful

protocol for “**reader profile analysis**” (pp. 48 – 53). This is a method of collating and summarising assessment results, and although the resulting diagrams are somewhat simplified, they provide a useful visual aid for practitioners wanting to understand complex patterns of results. I used a version of these diagrams for the three learners in my initial study.

Schiff (2004) constructed a similar profile of “unique assets and limitations” for university students known to have problems with reading course materials, and paid particular attention to affective and motivational factors. The Diploma in Adult Dyslexia Diagnosis and Support (Klein 2003) concentrates on building up a **portrait of strengths and difficulties** in cognitive processing, and designing support programmes to build on strengths. This includes ascertaining preferred cognitive modalities (visual, auditory and kinaesthetic) and preferred thinking styles (visual and verbal, holistic and sequential) outlined by Cooper (2004 and 2006). Greenberg *et al.* (2002) also highlight strengths as well as weaknesses in their reading programme for low achieving adults, based on a method used in high schools. This takes readers through a series of **graduated steps** covering all aspects of word recognition, fluency in text reading and comprehension. Sadly, the resulting progress in actual reading skills was limited in this study. The researchers speculate on the difficulties of undoing ingrained reading habits as a limiting effect, which is a good reminder of the need to “sell” new exploratory methods when supporting poor adult readers.

Both Fitzgerald and Young (1997) in the USA, and English studies of adult literacy set great store by the **experience level of teachers**. Extending the experience of teachers in **specific techniques** for working on reading is implicit in the studies of the University of

Sheffield research group (Besser *et al.* (2004), Brooks *et al.* (2007) and Burton (2007a and b)).

This literature review has highlighted a number of key issues. It started from an account of media events, policy statements and key review articles which have influenced the adult literacy sector in this country and in the USA and formed a starting point for my own research. It has explored the numerous theories around reading, seeking to distinguish those relating to early reading acquisition and ongoing reading development, particularly in the adult years. In so doing it has uncovered the relative paucity of studies looking specifically at adults who have reading difficulties. Most academic studies focus either on children or on the nature of reading through reference to what competent readers do. Where they do consider and compare adults with dyslexia with other readers, there will always be the dilemmas in interpreting research from the laboratory versus that set in a broader educational setting. My research is outside of the laboratory and tackling some of the real life issues that struggling readers face. As such it could be seen to be beset with methodological difficulties and constraints. However, it seeks to confront some of those methodological issues, most notably by critically examining the assessment tools commonly used in research and practice in this field and refine the notion of suitable and measurable progress. It aims to integrate some of the threads revealed through this literature review and contribute to the body of knowledge about best practice in adult literacy. It adds to the very limited oeuvre of research into adults' reading from the UK, looking specifically at adults who struggle with reading.

Having identified themes which are worth exploring and narrowed these down to the specific facets of reading, I refine these through

my research questions. A detailed discussion of those research questions follows in Chapter 3.

Chapter 3 : Research questions

The precise formulation of my research questions developed during the course of the research project and was influenced by my literature review. Prior to my initial study the full set comprised nine questions. Following evaluation of the initial study findings, I refined and shortened the list.

My original research questions were posed at four different levels, in an attempt to elucidate the different levels of discourse people use when discussing issues in this field. These levels also anticipated some of the possible levels of change any outcomes of the research may influence (individual, pedagogical and policy changes).

Level 1: how best to select, design, implement and evaluate a set of tools and **strategies** to support adults' reading (relating to individual and pedagogical changes):

Q1.1. Is there a measurable difference between the effectiveness of different methods and approaches?

Q1.2. Is there an optimal combination of methods and what, if any, are the interaction effects?

Both of these questions assume an actual way of measuring success or progress in developing reading skills, which in turn generates Level 2 questions.

Level 2: what counts as success - what does it mean for an adult to make **progress** in improving different aspects of reading skills, including the definition of which aspects are key ones (influencing both pedagogy and policy changes):

Q2.1. What counts as an improvement in reading skills? Previous research, such as that outlined in Chapter 2, has elucidated this question, but not definitively answered it for adults with complex learning needs. We need to decide:

- Is it what government policy looks for, i.e. a move up in curriculum level, e.g. from entry level to level 1 or from level 1 to level 2? The Adult Literacy Core Curriculum, published in 2001 (The Basic Skills Agency (BSA) 2001) first set levels for England, based on existing national vocational qualification (NVQ) standards at Level 1 (roughly the equivalent of the attainment of a 14 year old) and Level 2 (equated to the performance of 16 year old school leavers). It added three “Entry levels” (E1, E2 and E3) to signify stages in literacy development and subsequently a “pre-Entry level.” National tests soon followed and also government targets for proportions of adult learners deemed to have attained each level and so shown suitable progress. In 2009 a review of the adult literacy core curriculum was concluded and an interactive version of the standards, complete with guidance material posted on the Learning and Skills Improvement Service (LSIS) Excellence Gateway website for the sector (LSIS 2009). Brooks *et al.* (2005) concluded that, especially for learners at a lower level of attainment:

Progress from one level to another is far too blunt a measure for pedagogical innovations to be assessed against, and statistically and educationally significant gains might be missed if a finer scale were not used (p.16)

- Is it when there is an improvement of any magnitude, for instance an increase in score between pre-intervention and

- post-intervention assessment or the equivalent for adults of an increase in “reading age” for children?
- Is it what learners say they value in their achievement (e.g. increases in confidence, better use of skills, social and socio-economic impact), in line with Charnley and Jones (1979)?
 - Is it when a learner becomes more skilled at reading for the purpose they intended, e.g. for pleasure, for work, for study, dependent on their individual needs and aspirations?
 - Is it when a learner can apply their skills in a range of contexts, and who would determine that range, the learner or tutor?
 - Is it when a learner becomes more confident in reading in some or all of its key aspects?
 - Is it a complex combination of any or all of the above?

The primary reason for question 2.1 is to place the research in a context. This research seeks to influence policy and standards and advise on teacher education issues. There is genuine debate on what are the best methods to help children acquire reading skills, which in turn influences policy on adult reading support.

Level 3: how best to **measure** that success and assess the impact of progress (pedagogy). Level 3 questioning poses a new type of discourse as to how we can measure progress in a way that is reliable and valid, but also practically and ethically acceptable to future practitioners and researchers. I am particularly keen to explore how far the ethical guidance (discussed in Chapter 4.2) underlying this type of research would impact on and safeguard vulnerable adult learners:

Q3.1. What are the practical and ethical issues in measuring improvements in reading skills using:

- pre-intervention test – post-intervention test protocols;
- self evaluation by a learner;
- teacher rating;
- other forms of assessment?

Q3.2. What level and type of validity and reliability are acceptable in assessing adult readers in a study of this kind and how do we measure this?

Finally, this study seeks to analyse trends and patterns in learners' progress and to see if there are common factors and interaction effects.

Level 4: the **analysis of factors** that have an impact on progress and success (of importance to individuals, pedagogy and policy):

Q4.1. Is there a link between the starting level and other starting characteristics of the adult learner and the effectiveness of the intervention method(s) used?

Q4.2. Is there a measurable effect based on giving a learner intensive individually tailored one-to-one support independent of the particular methods used?

Q4.3. Are any or all of Kruidenier's (2002) four components of reading useful when designing and evaluating intervention tools.

Following evaluation of the exploratory initial study findings, I refined and shortened the list in order provide a more manageable focus to my main research. This becomes the core set of research questions for the remainder of this thesis:

Q1. What counts as an improvement in reading skills for adults (given the range of aspects and components involved in effective reading)?

Q2. What are the practical and ethical issues in measuring improvements in reading skills?

Q3. How far do Kruidenier's (2002) and Kruidenier *et al.*'s (2010) 4 components of reading (alphabetic, vocabulary, fluency and comprehension), elucidate the characteristics of adults' reading skills, the tools most useful for intervention and the improvements adults may make?

Q4. How far do individual differences impact on an adult reader's capability to improve?

Q5. What are some of the features of good support for adults' reading skills that influence their improvement?

Given the relatively small scale of a study of this kind (the overall sample size of learners in the main study is 10), I have to be realistic about the extent to which my findings will be amenable to generalisation needed for policy change. However, a major aim is to add to the very limited research base examining specific reading skills in the adult sector (Brooks *et al.* 2007). Practitioners are more likely to value recommendations for changes in practice if they are backed up by evidence of effectiveness, including from academic research.

In order to give future researchers a better opportunity to replicate and develop my study, Table 3.1 articulates the methods and data sources which were intended to answer each of my five research questions.

Table 3.1 A grid of the intended sources of evidence relating to each research question

Sources of evidence		Literature review	Case study evidence	Insights from collaborator researchers and self	Information from learners	Test scores	Reflections on assessment practice
Research questions							
Q1.	What counts as an improvement in reading skills for adults (given the range of aspects and components involved in effective reading)?	Yes	Yes	Yes	Yes		Yes
Q2.	What are the practical and ethical issues in measuring improvements in reading skills?	Yes	Yes	Yes	Yes	?	Yes
Q3.	How far do Kruidenier's (2002) and Kruidenier <i>et al.</i> 's (2010) 4 components of reading (alphabetic, vocabulary, fluency and comprehension), elucidate the characteristics of adults' reading skills, the tools most useful for intervention and the improvements adults may make?	Yes	Yes	Yes	Yes	Yes	

Sources of evidence		Literature review	Case study evidence	Insights from collaborator researchers and self	Information from learners	Test scores	Reflections on assessment practice
Research questions							
Q4. How far do individual differences impact on an adult reader's capability to improve?		?	Yes	Yes	Yes	Yes	
Q5. What are some of the features of good support for adults' reading skills that influence their improvement?		Yes	Yes	Yes	Yes	Yes	Yes

One might have assumed that a literature review would in itself answer research **question one**, as a way, in essence, of defining terms. However, the paucity of specifically relevant research in this area and the division between political, theoretical and practitioner views on what counts as progress in reading has meant that this is not fully possible. I therefore set out to try to articulate through a case study approach some of the parameters for capturing the essence of improvement. In particular I look for insights from my collaborator researchers and during my input into the research reflect on when it seems that a learner has grasped a concept or skill. The evidence from this should come from the learners themselves (things they say, a subtle look of understanding on the face, the results of their evaluations at the end of the intervention, follow up of their progress after the research finishes), which are included in detailed learner profiles (Chapter 7 and Appendix 25). It also comes from collaborator researchers' session records, evaluations and focus meetings. The test scores and data analysis itself are not directly expected to yield answers to question 1 (as progress is not necessarily quantifiable as an absolute value), but rather the reflections on assessment practice, with its discussion of test validity, error ranges and the nature of statistical significance.

Answers to question one are likely to be affected by findings relating to **question two**. The practical and ethical issues surrounding assessment will have a bearing on what it is feasible to count as making progress in adults' reading skills. Exploring other assessment-based research through the literature review will help avoid the pitfalls other practitioners and researchers have experienced. My collaborator researchers' views and my own evaluative practice are crucial to answering this question, as are

observations of learners, in seeking to facilitate informed consent and avoid test stress in my assessment practice. The whole theme of this question is framed by the ethical standards I adhered to in seeking clearance from the university's ethics committee for my research. Once more, data analysis of test results is not sufficient to answer question 2 but rather the information from reflections on assessment practice as a whole.

Answering **question three**, with its complex set of features, is most amenable to the broad focus of case study evidence. The literature review has shown that Kruidenier's views have been challenged but are also widely influential in framing other research and practice. This current study seeks to provide evidence from analysis of test results as well as qualitative analysis of the usefulness of the working party's categorisation of reading instruction tools.

The individual differences which form the subject of **question four** are inevitably unique to the set of learners involved in this study. As such, evidence from the literature review is only relevant methodologically to the design of other individualised research. Of most use is the qualitative evidence produced through drawing up detailed learner profiles, though analysis of the quantitative data from test results allows comparison between individual performance and group means. Evidence from the learners themselves and the people who work with them are also a key aspect in elucidating the impact of learner characteristics on progress in gaining new skills.

Question five is amenable to answers from all the main sources of evidence. Researchers, awarding bodies, organisations upholding quality standards and politicians all have views on what makes a good teacher or support tutor. My case study with its range of

different levels seeks to give an evidence-based analysis of what works best.

Chapter 4 : Methodology

In choosing a structure and methodology for my doctoral research, I am aware of three broad intents, which overlap:

- to extend my own personal development as a researcher by trying out a variety of methods and approaches, some of which are new to me;
- to home in on methods that are best able to answer the core research questions listed at the end of the previous chapter;
- to espouse an eclectic and democratic style of research, first used in my original masters' level research (Partridge 1989), which evaluated learning taking place within an adult literacy scheme.

In this way, I follow the advice of Burgess *et al.* (2006) who recommend a "pragmatic" approach, as used by "most practitioners nowadays, particularly those in education" (p. 56), but only if "the rationale for each method is made transparent" and freedom of choice is backed up by responsibility, in terms of the validity of the approach and good ethical practice. My research is founded on exploring and evaluating alternative methodologies with this level of rigour.

4.1 Choice of the research framework

Aware that it is helpful to make explicit the background thinking and stance that a researcher brings to a study of this kind, I looked into several of the broad paradigms for research. I know that research in the laboratory is not going to provide all the solutions that I want to the issues of adults' reading skills, so I am committed to applied research in the field.

Yin (2009) offers, in my view, some really sound advice on the design and execution of research conceptualised as a **case study**. This is particularly useful “to *enlighten* those situations in which the intervention being evaluated has no clear, single set of outcomes” (p. 20), or when interventions are too complex for a pure experimental design. It is also a useful approach for an evaluative study. Case study research has the benefit of being real and applied, yet can still be rigorous and systematic. The onus is on the researcher to “demonstrate reliability and validity” (Cohen *et al.* 2007, p.257). Case studies allow you to link data to propositions by looking at or comparing different patterns in emerging findings. This approach caters for a choice of different data collection and analysis strategies. In essence it is a way of unifying different research techniques to give an explanatory or evaluative result. Yin emphasises the importance of good research design, outlining the need for different levels of validity and reliability at each stage, which is an important aspect for my evaluation of assessment tools.

Case study research requires good skills and techniques on the part of the researcher (Yin 2009 pp. 67 - 72):

- good questioning and having an enquiring mind as the data comes in;
- good listening – being open to new lines of investigation without undue preconceptions;
- being adaptable and flexible within the basic research design;
- having a firm grasp of the issues, being able to make inferences from findings and look out for counter-examples;
- staying free of undue bias from pre-conceived notions, which might lead the research mechanistically.

I seek to demonstrate this level of rigour in my own approach to the research, and also to reinforce good practice on the part of my

collaborator researchers during the main study. Yin mentions the importance of a thorough briefing for all researchers and particularly clear protocols for each researcher to use. My preparation for the main study was thorough in this aspect.

Case study research has four main types of design, as shown below:

Table 4:1 Case study design based on Yin (2009) p. 46

Single case design	Multiple case design
Single case with one context	Multiple case with different contexts
Single case with same context but different units of analysis	Multiple case with different contexts and different units of analysis

In my initial study, I essentially followed a multiple case design. As sole researcher, I provided the constant focus, however my three learners inevitably operated in different contexts and even on a small scale I was working with different units of analysis. Each learner is unique and I wanted to encapsulate individual differences as well as common threads. I was also looking at the different components of reading skills, to see what could be the most beneficial outcomes for each one, and not necessarily looking for a unifying theory. In my main study, as I made use of five other practitioners as my collaborator researchers, the contexts were multiplied and I aimed at a multi-faceted framework for analysis.

In a multiple case design it is particularly important to have the overall aims of the research in mind and select the cases carefully. Yin (2009 p.54) argues that every case should have some sort of equivalence, though not as rigidly as in experimental design. He discusses the importance of "replication." This is not the same as

reproducing precisely the same experimental conditions, but more about being able to predict similar results in different case studies ("literal replication") or predicting different results but for predictable reasons ("theoretical replication"). In my main study, for instance, I wanted to ascertain through evaluation whether specific strategies worked better than others in particular cases. However, I also looked proactively for differences attributable to the individual learner, their cognitive profile and related to their learning relationship with a tutor. Finally, Yin's case study methodology offers clear guidance on data analysis and presentation of findings. I am particularly drawn to Yin's method of iterative explanation-building (Yin 2009 pp. 141-144) and the idea of building up a systematic database of results.

I found just three studies that explicitly use Yin's (2009) case study research methodology applied to adult literacy. Sandman-Hurley (2008) evaluated the effectiveness of volunteer tutors using multi-sensory techniques to help with reading. The results of the research were used to advise volunteers on how to make better use of the training they have. Harreveld (2001) found that a structured case study framework gave a rigorous basis for her study of adult literacy practitioners' changing professional identity. A very recent case study of refugees struggling with literacy in high school (Naidoo 2011) also uses Yin's methodology to explore "what works" best as intervention.

As well as case study design, a strong influence on my research is, perhaps paradoxically, based on research into mathematics. I discovered the term **design-based research**, described by Swan (2006) in the introduction to his book on a study of collaborative methods of teaching mathematics to young people and adults. Drawing on the work of various earlier researchers, Swan calls this

approach a “paradigm for the study of learning through systematic design of teaching strategies and tools”. It moves away from “quasi-experimental” methods because:

The goals of mathematics education are more complex than the mastery of content, the control of variables in naturalistic settings is often impossible, and theoretical constructs often only emerge as one engages in the research – they cannot always be determined *a priori*. (Swan 2006, p. 29).

This approach is also appropriate for literacy research. I am seeking a “wealth of empirical evidence” to evaluate my strategies and refine my products (p. 31). Swan argues in favour of being an **interventionalist researcher**, rather than that of a participant observer, because it allows different modes of testing the design as the study goes on pp. 33-34). As a practitioner researcher, my research leads me to be active in my interventions rather than standing back and observing others. I do, however, look out for sources of bias through being reflective and reflexive in my practice (Schön 1987).

I am also influenced by theories about the nature of adults’ learning more generally (see Chapter 2.6) and the implications this has on methodology. Jarvis (1995, p.103) neatly summarises the conditions an adult brings to learning (learning as a basic human need, learners bringing their own experiences and learning preferences, learners’ particular meaning systems) and the way this should affect how a teacher facilitates learning, making learning relevant, being sensitive to “the humanity of the learner at all times” and ensuring that the conditions for learning are optimal to each individual. For me, learners, and all that they bring to my field of research, are essential elements in that research and should be actively involved.

This study, therefore, seeks to create a balance between qualitative and quantitative methods of data analysis and to harness the input of **all** key players within the research process. The key players are myself as researcher, other practitioner researchers in the main phase of the study and learners as participants, collaborators and evaluators in their own right. I value the input from my learners and share “results” with them, as full partners in **“practitioner research”** (Herrington and Kendall 2005). This may be seen as:

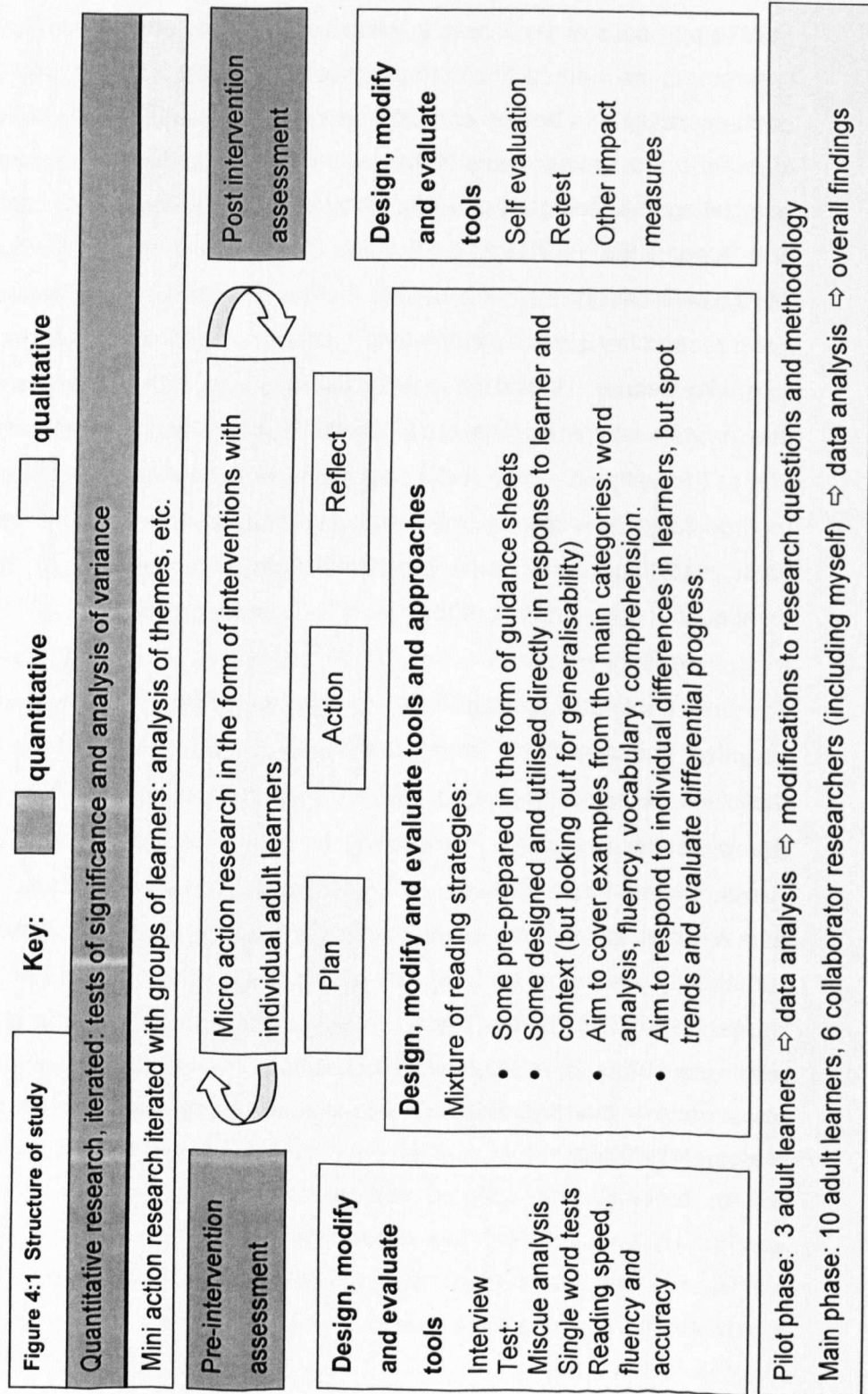
a direct challenge to some traditional research practices with their strict divisions of labour between researchers and practitioners, with ‘approved’ research methodologies in which the learners were the researched rather than the researchers. (pp. 6-7).

Herrington and Kendall aim to build research into the infrastructure of adult literacy practice, because often in the past teachers have felt alienated by academic research. Herrington herself (Herrington 2005) studied “conversations” between dyslexic students and their tutors, which yielded “important insights....about how literacies are experienced by those deemed to be dyslexic and about precisely how institutional and cultural conventions continue to exclude and marginalise” them (p. 431).

In the main phase of my research I used fellow practitioners as collaborator researchers to generate a larger set of data, but also to check out the relevance of the approaches. In this way I attempted to bring research closer to everyday practice and listened to the “research narratives” of practitioners and their learners (Herrington and Kendall 2005 p.20). Collaborator researchers kept a reflective diary of each session and also captured an essence of what learners said and did.

For the purposes of my research, I made an effort to ensure as much consistency as I could between practitioners, whilst being aware of each operating in a unique context and setting. I restricted my choice of collaborator researchers to those who either had or were near completing the postgraduate Diploma in Adult Dyslexia Diagnosis and Support (Dip. ADDS) from London Southbank University (LSBU 2010), thus ensuring a minimum level of knowledge and experience. Each researcher supplied video evidence and written records for me to quality assure. I held three informal meetings with researchers, one near the beginning to brief potential collaborator researchers, one at the midpoint of the main study with reminders of the required methodology to enhance consistency, and one at the end. However, each practitioner was given intentional licence to respond to the immediate learning needs of the adults they worked with.

The theoretical and practical framework underpinning both my main research phase and my initial study is outlined in Figure 4.1. It combines elements of **action research** at a *micro* level (individual differences) and at what I am calling a “*mini*” scale (dependent on overall sample size). Cohen *et al.* (2007) claim this style of research is “a flexible, situationally responsive methodology that offers rigour, authenticity and voice” (p. 312). By raising the status of the “voice” of learners and practitioners I hope to signal the appropriateness and relevance of this style of research and also convince academics and policy makers that thoughtful change is possible as a result of small scale interventions.



4.2 Ethical considerations

At an early stage in my research I gained approval from the Open University's Ethics Committee (see Appendix 2 for my submission). The Open University tasks its researchers with assuring due consideration for the sound recruitment of participants (including any sampling methodology), informed consent, data protection, minimising risks, fair representation to avoid deception, and appropriate debriefing of participants. I specified to the committee that I would be using the British Educational Research Association's (BERA 2004) guidelines. These are founded on "an ethic of respect for:

- the person
- knowledge
- democratic values
- the quality of educational research
- academic freedom." (p.5)

What follows is a consideration of how I complied with the main elements of the BERA guidelines, along with some points from my reading of the literature on ethics.

The Association takes as a norm the sort of **voluntary informed consent**, whereby I asked host organisations (viewed here in some senses as "sponsors of the research", p.10, in that they gave me access to subjects for my research and suitable premises), collaborator researchers and learners to sign a letter outlining their rights and responsibilities within the research, before it took place. I took care, in addition, to explain the nature of the research to each learner personally, knowing that with limited literacy, such a letter might be hard to read. Homan (2002) warns about the "myth of voluntariness" (p.31), especially where learners are deemed to be

“partners in research” rather than subjects. He points out the danger that participants will forget they are the subject of research as it progresses. While this may have been the case here, the danger was slight. The intervention was relatively short and I did reiterate the link to each participant’s gatekeeper (their regular teacher) if they had any problems with the research.

All participants were aware of the **right to withdraw**, at any stage. One host organisation declined my invitation from the outset. Six of my potential collaborator researchers withdrew at various stages of involvement for practical reasons. Five learners failed to complete their sessions. Although taking reasonable measures to persuade them to re-engage, I was careful to ensure the withdrawal was their own decision, or, more often than not, merely a case of competing demands on their time. Only one learner asked to be taken off the programme, after one session of initial assessment. No data from participants who withdrew early were included in the main findings.

The learners participating in this study can all be classed as **vulnerable adults**, by virtue of their literacy difficulty. I ensured that all researchers, myself included, had the requisite criminal records bureau (CRB) disclosures and were aware of the sensitivities involved.

I sought not only to avoid **detriment arising from participation in the research**, but actively to put the needs of learners first. This meant first and foremost that I decided against the use of control groups, even though this might mean that my findings were less robust than in an experimental study. In addition there were times when research took second place to a practical need. Regular attendance at intervention sessions was hard to achieve, given

adults' complicated lives. The pressure to meet a course deadline, or to impart information about imminent childbirth, in one case, took precedence on occasion over the research protocols. However, this served to make the research style more naturalistic and practical for regular practitioners to replicate. Pring (2002) examines potential conflicts of interest in research at the level of the ethical code. He urges the researcher not to work within a "moral vacuum," (p. 119) where the research always comes first but to look for the needs and interests (what he calls "maximising the happiness") of all concerned.

Adult literacy practitioners are well-versed in the issues of **privacy, confidentiality and disclosure**, especially with new legal requirements for data protection and safeguarding. I ensured safe storage of data and anonymity in reporting findings, but also required active debriefing of learners on their progress as the research progressed. Collaborator researchers met on three occasions during the research to share information and discuss the implications. Host organisations were asked for permission to be named in the acknowledgments for this thesis, but otherwise no organisational information was disclosed. I followed the progress of those people via their tutors and reiterated my gratitude for their involvement.

The BERA guidelines require that the **methods** employed in research are "fit for the purpose" (p.11) and have been actively selected from possible alternatives. Researchers owe this integrity to participants in the specific research but also to a wider research community.

At the level of the choice of data collection and analysis methods, an ethical researcher should be overt about the decisions made. In my use of statistical tools I took advice from Open University statisticians

on what was valid and useful to report, using “a combination of statistical zeal and sensitive individual conscience” (Sammons 1989) in my endeavours. If anything, I chose to under-report findings for which I could not guarantee a secure grounding.

“Positionality” is an issue that exercises the minds of good researchers. How much do my background, my stance and my implicit assumptions affect the outcomes of the research? “Along with her research topic and tasks, the critically reflexive researcher introduces herself, often at some length.” (Pendlebury and Eslin 2002, p.63), as I did in Chapter 1 and at intervals within this thesis. At different times I represent myself as an insider (an experienced practitioner in adult literacy) and as an outsider (working in new host organisations and in the unique setting that every adult learner brings). I have no specific organisational loyalty. I want to solve problems at the micro and macro level. My collaborator researchers each represented their employer to some extent during the research, but also had some assumed loyalty to me as the lead researcher. No one has an explicit source of gain from the research (except for me through the award of my degree) but all express an impetus to further the cause of educational policy and practice in this area (a “virtuous research community,” (Pring 2002, p.125) with its thirst for knowledge).

Another concern might be my position of power in relation to adult literacy learners and some associated “paternalism” (or maternalism) in misrepresenting their needs and aspirations (Pendlebury and Eslin 2002, p.68). A researcher in this position needs to be mindful of selectivity when presenting evaluative comments from participants.

As an additional layer of monitoring for the effectiveness and ethics of my research, I refer to the standards outlined by Lane and Beebe-Frankenberg (2004), albeit retrospectively following the completion of the study. This framework is particularly relevant for where an educational intervention is involved and consists of the following features (p.5-8):

- linking interventions to assessment information, as a source of justification for that intervention,
- monitoring learners' progress at key points in the process, through valid measurement,
- ensuring the social validity of the approaches used, again at key points in the study, by consulting interested parties (my learners and collaborator-researchers),
- monitoring "treatment integrity" in so far as the interventions carried out are as planned,
- paying due attention to the generalisability of the effects observed or at least their maintenance outside of the research context,
- a precise and professional way of presenting and disseminating the findings.

I will return to these standards in Chapter 10, when evaluating the outcomes of this study. I aim to show that I implicitly adhered to these criteria at the time of undertaking my study.

The next chapter outlines the methods used in the main study in more detail, with brief reference to the way the research was set up and trialled through a pilot study.

Chapter 5 : The data collection phase

This chapter sets out in detail the stages I went through to collect appropriate data to answer my research questions and further develop research into adults' reading skills. It outlines the initial study I undertook to test out my methods, expands on the specific research design of the main study, introduces the participants, and makes explicit the timeframe and protocols I used, including tools for assessment, intervention and evaluation.

5.1 An initial study

The initial study gave good quality time for consideration of the design, trialling and evaluation of assessment tools and approaches to one-to one support of adults' reading skills. I was also realistic in only seeking to answer some of my research questions, focusing on research questions 1 and 2. I was the sole researcher, though I was already consulting with potential collaborator researchers, who acted as gatekeepers for accessing adult learners as subjects for my research. One college and one adult education service, both in the English West Midlands provided a total of three learners for me to work with. I include brief profiles of them here.

Learner A: white, male, aged 25, with cerebral palsy. He was diagnosed as dyslexic at the age of 19 on transfer to a college of further education, having attended a special school since the age of three. He had no qualifications in English or Maths. He was taking a break from college to set up a computer repair business.

Learner B: white, female aged 49. She was late learning to talk and attended a special school as a boarder until the age of 15. She was encouraged to talk through music. She received medication for

depression which affected her concentration levels during the study. She had significant housing and welfare needs. She had recently started attending adult literacy classes.

Learner C: female, aged 44, of Indian heritage, bilingual in English and Punjabi. She learned spoken English at school, but recalled no extra help for reading. She left formal education with no qualifications. She was diagnosed as dyslexic at FE college 3 years previously. She passed the national literacy test at level 2 and numeracy (level 1). She was attending a course to understand more about dyslexia and to help her three school-aged children, two of whom had significant difficulties with reading.

I met with each learner for approximately one hour per week for 7 or 8 weeks on a one-to-one basis. A running record of strategies and approaches used was kept and I recorded evaluations of effectiveness both from myself and the learner.

The tools used were a mixture of naturally occurring responses to a learner's needs and some pre-prepared strategies in the form of guidance sheets based on Kruidenier's (2002) and Kruidenier *et al.*'s (2010) four components of reading. Following evaluation of the initial study I compiled a final set of modified guidance sheets for use in the main study.

I was also seeking to trial a battery of assessment tools, to administer before and after the intervention period. The assessments used were the same as in the main study, except that I used WRAT3 (Wilkinson (1993) instead of WRAT 4 (Wilkinson and Robertson 2006) to give a standardised score for word recognition. Besser *et al.* (2004), in their study of adult readers attending literacy

classes in England, made interesting use of “reader profile analysis” (pp.48-53). They developed clusters of scores on varying tests to show graphically how individuals differ and how trends in measures of reading ability run in groups. This has the potential to highlight to practitioners those areas where learners need help. The disadvantages are that:

- the bands of high, mid and low are only very crudely defined;
- there is only a broad inference of correspondence between levels of scores from different types of assessment;
- it is not valid to make detailed comparisons **between** learners except for the overall pattern of scores.

Graphic profiles of the three learners in my initial study are reproduced in Appendix 21. Though it was interesting to try out this style of profiling, on reflection I decided not to use it in my main study, because the disadvantages mentioned above outweighed the initial visual impact. Instead I used a more verbal style of profiling.

To follow up the sessions of one-to-one support, I repeated the assessment using WRAT 3 (Wilkinson 1993), using the alternative word set, and miscue analysis, using a different passage, but at an equivalent level to that used for initial assessment. The results for each learner are summarised in Appendix 21.

5.2 The design of the main study

In setting the design for my main study I made decisions about the following aspects, based on refinements to the initial study and the refocus of my research questions:

- participants (collaborator researchers and learners);
- timeframe and phases;
- protocols;

- assessment tools;
- intervention tools;
- evaluation methods;
- analysis of findings.

5.3 Participants

Having completed all the assessments and interventions myself during the initial study, I resolved to extend the scope of my research using collaborator researchers. This serves the multiple purposes of:

- increasing the scale of my study;
- generating direct evaluative evidence from fellow practitioners using the tools and approaches I have designed and/or adapted;
- training and supporting fellow practitioners in a research based model of learning support, as a developmental aspect of my action research.

From an original pool of eleven colleagues asked to contribute to this research, five finally took on a research role with one or (in one case) two learners. The remainder have stayed in contact and contributed ideas and feedback informally and through meetings. Three of the five full researchers are employed by FE colleges and two support adult learners in a community context. From among the wider group of collaborators giving advice we also have representation from the university and work-based learning sectors. One inspired the creation of one of my intervention tools (guidance sheet V1 in Appendix 18). Another was actively involved in the initial study, providing a venue and a learner for me to work with. Nine of the eleven attended an initial research meeting in December 2008, the other two being briefed individually. Follow-up meetings were held in September 2009, March 2010 and July 2010.

All of the colleagues involved, including the five full collaborator researchers, have previously received training from me in the postgraduate Diploma in Adult Dyslexia Diagnosis and Support (Dip. ADDS) accredited through London Southbank University (LSBU 2010). This is a bespoke course for teachers and support workers in the adult sector. It includes strong taught elements plus the submission of detailed case studies involving assessment and support for adults' reading skills. In this way I can be assured of the skill level of my fellow researchers and a common purpose in taking an individualistic approach to facilitating adult learning. To preserve anonymity, collaborator researchers in their role of tutors supporting learners in the research will be designated T1, T2...

A major function of the collaborator researchers was to identify adult learners to work with. The brief for selection was to choose learners who had an urgent need for, and an interest in, improving their reading skills, in the context of a college course, a skill for employment or a functional literacy need. Learners needed to be prepared to attend eight sessions of one hour, in addition to any support they already received. All researchers received either an observation visit from me or were required to submit a DVD of one session of intervention with a learner as a means of quality control. The criteria for judging whether their support was appropriate for my research were:

- observing a good working relationship between learner and researcher/tutor;
- seeing a problem solving approach to the issue of reading;
- having at least two of my guidance sheets actively used.

Although I would have been prepared to exclude researcher/learner pairings from my data analysis if I felt these criteria were not met, this

would have raised ethical concerns and possible bias. As it emerged this was not necessary, and it is notable that no learners asked to withdraw from the support provided by my collaborators; all were extremely positive about it.

Rights and responsibilities in line with the Open University ethics committee's guidelines were observed.

5.4 Timeframe and phases

The main study took place over three academic terms from January to December 2009, with a pause at each vacation break to analyse results and adjust any of the specific protocols for working as a result of issues that arose and interesting research findings. Although this involved the purposive endeavour encapsulated in grounded theory (Robson 2002), case study design, with its search for emerging patterns from data (Yin 2009), was the main research strategy.

Within the main study, the collaborator researchers, myself included, worked on a one-to one basis with the selected adult learners for up to 8 sessions in four phases:

- initial assessment phase;
- intervention phase;
- summative assessment phase;
- evaluation phase.

This phasing of the study was essentially the same as in the initial study.

5.5 Protocols

Assessment tools, intervention tools and protocols were developed and/or adapted for each of the phases.

Collaborator researchers received a pack of documents and a definitive set of tools and protocols on a memory stick at the researchers' meeting, and had a chance to discuss the issues of implementing this research project. This falls in line with Yin's instructions to train and involve all investigators in a multiple case study in all aspects of the protocol so as to improve reliability (Yin 2009, pp.74 – 77).

5.6 Assessment tools

Appendix 3 shows a summary of the assessment tools used and their sources.

A decision was made, following the initial study to replace WRAT 3 with the more up to date WRAT 4 test of word recognition. As well as being more recently validated (Wilkinson and Robertson 2006) this test benefits from being more gently graded in content, so not providing such a big jolt of confidence to adult learners as the words get harder. The choice of a standardised test of word recognition for use with adults is limited. It is a limitation that WRAT 4, like WRAT 3 is standardised using an (albeit diverse) American population. There are no up-to-date tests from the UK that are as simple to administer and relatively easy to interpret for this age group. There have been questions over the validity of use of the WRAT series of tests for diagnostic purposes (Dell & Dell 2008), which the introduction of WRAT 4 have not dispelled. Dell and Dell caution against using WRAT 4 in isolation for "determination of academic skill levels", a pitfall I avoid through using it in combination with other single word tests and a test of passage reading. Interestingly enough, it is not my experience that WRAT 4 grades a learner consistently higher than other tests. In fact, the WRAT 4 score for my learners indicates substantially poorer reading skills than the same adults display when

they are reading a text. Adults bring compensatory strategies, including context cuing, which are more effective in a passage than with single words. I chose not to use the WRAT 4 subtest of “sentence comprehension” as, in my view, its form of cloze style response and dependency on general knowledge do not give enough construct validity for it to be a proxy for reading comprehension.

The range of assessment tools used is deliberately relatively small, so as to be practical for busy teachers. It comprises a mix of qualitative and quantitative, standardised and un-normed measures, again to offer a range of different tools to evaluate and a more holistic picture of learner attainment. The aim is to build up a useful profile of each learner's skills so as to tailor support to particular needs. Brooks *et al.* (2005) argue that there is a need for “valid, reliable and manageable instruments,” both for adult literacy practitioners but also for research purposes. An outcome of my research is to clarify the usefulness and validity of the tools I used (Research Q2).

On a practical and ethical basis (partly answering Research Q2), none of the three learners reacted badly to the assessment protocols at the start of the initial study, so their use was maintained with minimal adjustment. Each assessment separately has issues of **validity and reliability** (Boyle and Fisher 2007) worth noting for future research, which are mitigated to some extent by using them in combination. Table 5.1 lists the tools used for initial assessment with an evaluation based on the findings from the initial study.

Table 5:1 Assessment tools and their evaluation following the initial study

Evaluation from the initial study	
List of tools	
A structured interview (Appendix 4), elucidating prior learning experience, possible precursors of difficulties and a self assessment of current difficulties with reading.	The interview was sufficiently informal to put them at their ease, but structured enough to gain useful information. I needed to make only minor adjustments to the wording of this for the main study.
The Wide Range Achievement Test (WRAT 4), (Wilkinson and Robertson 2006) reading subtest	The age of WRAT3 led me to change to WRAT4 (Wilkinson and Robertson 2006) in the main study
A test of irregular words (adapted from Swabey 2002).	This test is designed to measure strengths in visual recall, though it is also dependent on having a wide enough vocabulary to draw on. In the irregular word list, it is important to establish, by questioning, whether the reader is likely to have encountered target words in their reading experience. If words are not in such an internal reading lexicon, then it is invalid to include them in the final score of visual recognition. Hence there is some variation in the total possible scores on this test and subjectivity inherent in readers' response to this prompt.

List of tools	Evaluation from the initial study
<p>A test of long regular words (Nelson 1977), as a measure of phonic decoding skills and an ability to use working memory to cope with the sounds of polysyllabic words.</p>	<p>This test seeks to assess phonemic analysis of longer words, but is skewed by the fact that there are some words which are familiar enough to be recognised by sight. The test is relatively old and not standardised, and so limited in its interpretive validity, but has not been superseded in the assessment of adult reading skills</p>
<p>The nonword decoding test (Turner 2003), designed to measure phonological processing skills without the aid of context or vocabulary knowledge.</p>	<p>The nonword list is open to challenges to its construct validity. The compiler of the version used here (Turner 2003) claims that it assesses a reader's "degree of familiarity with the possibilities of written English orthography" (p. 1), as it is made up of direct extrapolations of English phonic forms. However, there are two immediate issues for an adult reader:</p> <ul style="list-style-type: none"> • some adults are significantly inhibited by the fact that they cannot recognise the items as real words and either lose motivation or systematically substitute similar real words; • the test is not long enough or systematic enough to cover all the major patterns and combinations of phonics, so some adults fail because of specific gaps in their knowledge, but this cannot be easily detected.

Evaluation from the initial study	
List of tools	
The nonword decoding test (Turner 2003) - continued	However, the virtue of the nonword test is that it is the purest form of assessment of a phonic approach to reading available. Researchers commonly use nonword or pseudoword tests.
The reading of a passage for reading speed and miscue analysis	The reading of an extended passage for the purposes of assessing reading speed, miscue analysis and comprehension throws up one immediate practical issue - that of knowing what level of text to start with. In the post-intervention assessment, it was important to settle on a different passage at an equivalent level in order to make direct comparisons. The miscue analysis itself is a very subjective tool, which raises issues of inter-assessor reliability. Inevitably a non-standardised test does not have the built in measures of reliability that some of the commercial standardised tests have, but it may have better construct validity. In the initial study, as I was the sole assessor, this was not a problem, but in the main study I gave clear guidance to practitioners on what I required in administering the assessment. The coding system used by Klein (2003) allows for a fair degree of subtle distinction between limited, partial and close use of a particular cueing system. I made a decision to perform the miscue analysis coding (from marked up text supplied) and interpretation myself in all cases, so as to avoid inter-rater unreliability.
Assessment of comprehension of the text by means of: <ul style="list-style-type: none">• unstructured recall• questions prompting recall, understanding, and where applicable, inference from meaning	

Post-intervention assessment comprised:

- a structured evaluative questionnaire for both learner and tutor (Appendices 6 and 7);
- ratings by both learner and tutor of the effectiveness of particular strategies (Appendix 8);
- where available, an evaluation from the learner's course tutor,
- a repeat of an equivalent but different reading passage for miscue analysis, speed and comprehension;
- a second administration of the alternative WRAT 4 reading subtest (Wilkinson and Robertson 2006).

5.7 Intervention tools

Appendix 9 shows a summary of the intervention tools as they relate to Kruidenier's four components of reading (Kruidenier 2002, Kruidenier *et al.*, 2010), namely alphabets (A), vocabulary (V), fluency (F) and comprehension (C), their rationale and sources. They take the form of a set of nine guidance sheets for practitioners (Appendices 10 to 20 shows a full set). As with the assessment tools, the selection was deliberately small, so as not to overburden teachers with too wide a choice. This was also designed so as to be realistic about the time needed to evaluate even a small set of techniques. The sample of interventions was unlikely to be large enough to elucidate which *individual* guidance sheet is most effective, but rather to shed light on which *components* are most useful to pursue and in which combinations. In addition, collaborator researchers were expected to use at least two other tried and tested techniques of their own in response to their own experiences and in response to their individual learners' needs.

The selection of techniques is also an attempt to bring some innovative thinking to the development of teachers supporting adults' reading skills. In most cases they were based on ideas validated by academic research but not necessarily implemented in a practical context with adults.

There follows a brief description of some of the tools outlined on the current set of guidance sheets their origins in research and the rationale for their use.

I retain Kruidenier's terminology here for the sake of consistency. However, I feel the term 'alphabetics' is somewhat misleading and tend to refer to this group of techniques as **word attack skills**, when talking to adult learners and their tutors. Many adults are sensitive about the stigma of 'going back to basics' implied by the alphabet.

- **Word attack**

Guidance sheet **A1: Enhanced LCWC** builds on a tried and tested method for supporting adults' spelling, the Look (Say) Cover Write Check Method and is adapted from the version in Millar and Klein (2002). The method aims to make words memorable in look, sound and meaning by constructive analysis into visual patterns, over emphasised sounds and mnemonics. There then follows a systematic routine for learning over a period of a week and testing to see if the work has been assimilated into long term memory. The method also has the benefit of giving adult learners an autonomous strategy for breaking words down into more recognisable chunks when attempting to decode unfamiliar words in the future.

Guidance sheets on **A2: rime prompting** and **A3: onset rime training** are drawn from Moseley and Poole (2001) and Bruck (1992)

respectively. They form an attempt to develop some phonological awareness in an adult reader, where appropriate, but without the strain and time needed for systematic study of individual phonemes. Learners are made aware of word structure both visually and auditorily and practise analysing them, with a view to generalising the technique to new words they encounter. When encountering words in a reading passage that are hard to decode, rime prompting allows for flow to be maintained as the tutor supplies the word, but later highlights the onset-rime structure of the problem word. Moseley and Poole (2001) found that children supported with this approach outperformed children who were not, with fewer subsequent word recognition errors. Besser *et al.* (2004) suggested rime prompting could usefully be employed in an adult literacy context.

- **Comprehension**

After an initial trawl through a wide range of strategies to support reading **comprehension**, I selected two which proved useful both in the initial study and in my wider professional practice.

C1: Survey, Question, Read, Recite and Review (SQ3R), described in Glover *et al.* (1990, pp. 253-272), actively prepares a reader for approaching reading material, taking them through systematic stages. Glover *et al.* see this as a useful application of schema theory, which holds that:

the meaning of reading materials is constructed by readers on the basis of the information they encounter, the information they already have in memory, and the way in which readers interact with new information. (pp.260-261)

By engaging an adult reader with this type of metacognitive approach before, during and after reading, SQ3R is likely to make them more

effective readers when it comes to extracting meaning and value from a text. Many adults who struggle with reading do not realise that it is a good idea to read in different ways in response to different text types and different learning needs.

In an attempt to shed light on the type of questions asked before reading, the idea of “strategic reading” and the guidance sheet **C2: Strategic Reading** stemmed from ideas in Fordham (2006). She intended to help readers approach a text dynamically and thoughtfully. To do this she trained teachers to ask more useful and strategic questions. My interpretation of Fordham’s idea was to coin specific questions that adult readers could ask themselves:

- What is the purpose of reading this?
- What do I already know that will help me?
- What aspects am I going to concentrate on?
- What do I need to look out for?
- How will I record and recall any information that I read?

I designed a two sided bookmark to cover these questions and SQ3R which I laminated and gave out to learners, as appropriate.

Other strategies that support metacognition in reading were reluctantly left out for the purposes of this study. The **scaffolded reading experience** (Fournier and Graves 2002) usefully divides activity to support reading into that undertaken before, during and after the reading of a passage. L’Allier and Elish-Piper (2007) demonstrate some imaginative ways of **recording information** (including graphic organisers, mind maps and double entry learning journals) to aid understanding and recall of textual material.

- **Fluency**

F1 offers a range of different approaches to improve fluency broadly related to more effective ways of tracking print. Tutors and learners are encouraged to try out different devices, including homemade masking frames, coloured overlays, use of pointers and software solutions for screen colour and line demarcation.

Paired reading (F2) is based on an idea developed by Topping (2001). Its use with adults is described by McShane (2003) and Burton (2007a and b). In my version, the tutor matches her speed and volume sensitively to that needed to support each learner and models good expression. Learners are never allowed to struggle with difficult words, as these are supplied immediately the reader hesitates. As and when the learner gains confidence, the tutor allows her voice to fade out.

- **Vocabulary**

An attempt to separate out work on individual words so as not to disrupt the fluency of passage reading underpins the guidance sheets for vocabulary development.

A colleague at a college of further education in the English East Midlands (Mackan 2007, personal communication) devised the vocabulary frame to illustrate meaning and memorable features of words likely to prove difficult in a text to be read. Its use is outlined in **V1: Vocabulary development**. The purpose of the frame is to record the target word in a way that makes it more memorable by highlighting sound and phoneme and grapheme patterns. There is also space to record meanings and imagery or humour to represent the morphology of the word. Each learner contributes to the choices at this stage of making the word memorable. Another important

feature of this approach is to make it a phase distinct from the actual reading of the text. The frame is used between a first and subsequent reading of a text so as not to disrupt fluency.

V2: structured vocabulary development is based on Ambe (2007), who devised sentence strips on card to illustrate meanings of difficult words. The sentences are designed to be simpler than the target text where words are subsequently encountered. The idea of both these strategies is that words are isolated from texts that are useful for an adult learner to read (for pleasure or for learning) and work is done before and after reading the text to practise and consolidate the vocabulary thus generated.

Other sources of inspiration from the literature review were discarded, after the initial draft of guidance sheets and subsequent to my initial study. Massengill (2004) included a wide range of vocabulary development and word recognition techniques in her **guided reading framework**. It would have taken too long to isolate which techniques were most useful for adults. I considered building on multi-sensory strategies to support reading leading me to focus on **visualising when reading**, based loosely on some ideas from "neurolinguistic programming" (Hickmott and Bendefy 2006), but it seemed difficult to pinpoint the possible impact of this. Not finding any obvious equivalent to bring out holistic auditory thinking skills while reading, I devised **reading with the mind's ear**, stimulated by reading an article of the same name (Bomer 2006). The idea is to harness the power of sound, mood and melody when reading to increase stimulation and enjoyment of reading for pleasure and impact. This idea will have to wait for future research, as will various other ideas for strategies and approaches based on ideas in Burton

(2007a and b), McShane (2005), Parr and McGuiness (2005) and Bell and Perfetti (1994), yet to be fully worked up.

5.8 Evaluation methods

During the intervention phase, detailed session records were kept reflecting on progress made and the success of the strategies used. These records form a rich source of data, which is used in Chapter 8 for qualitative analysis. At the end of the intervention phase, each learner and their tutor was asked to rate the strategies they had used on a scale of 1 to 4 for effectiveness, where 1 is excellent, 2 is good, 3 is satisfactory and 4 is poor or inadequate (in a parallel to the Office for Standards in Education's (Ofsted 2009) inspection grades). In addition learners and tutors completed questionnaires eliciting their views on the impact of work they had done (see Appendices 6 and 7).

The next three chapters comprise the data analysis for my research project.

Chapter 6 : Analysis of findings from the main study

6.1 Introduction

It is important in a case study to set out explicitly how data will be analysed in relation to the research questions (Yin 2009 suggests this is a crucial part of the protocol), though it is still possible to be adaptive and responsive if circumstances change.

In line with my choice of a case study as the framework for my research, I present my results as a systematic database of results of different kinds. I use three of Yin's (2009) five analytic techniques to assemble good quality case study evidence. These are:

- “pattern matching” logic (p. 136), where I seek to test out hypotheses and predictions from within both qualitative and quantitative data;
- “cross case synthesis” (p.156), where I make overt comparisons between different cases (in my case different learner and researcher pairings) to elucidate similarities and differences;
- iterative “explanation-building” (p.141) discussion of what occurred. I evaluate the weight of evidence for rival explanations, both as my own research developed from the initial study to the final phase of data collection and in comparison with theories put forward by other researchers.

I follow Yin's advice to present data neutrally in the first instance, to enable the reader to draw “an independent conclusion about the validity of a particular interpretation” (p.189). Later, I add more interpretive material as I reflect more on the findings and compare them with other studies.

I have a range of quantitative data relating to:

- initial and summative assessment results;
- changes between pre-intervention and post-intervention assessment in: reading speed, accuracy, recall and comprehension, self assessment of reading confidence;
- ratings of the success of different approaches by learners and tutors.

My qualitative data includes:

- learner interviews showing differences in learners' background and experience of reading;
- diagnostic summaries of findings from initial assessment;
- session records for the intervention phase, including DVD and observational evidence;
- insights from learners about what worked best;
- insights from tutors reflecting on the support they gave;
- insights into the assessment process, relating to how to measure improvement;
- enhanced profiles of learners given the benefit of increased information from the research.

6.2 Characteristics of learners

Compiling profiles of the learners' starting points involved in the research serves two purposes. First, it helps set the context for the research and identifies possible issues and factors that different learners bring to the equation. Whilst it may not be possible to fully analyse all these factors, it is vital at the very least to be aware of the context in which they reside and the aspects of personality, culture and skills which learners themselves bring to this research. Frith's (2002) concept of environment interacting complexly with behaviour is pertinent when observing, analysing and interpreting findings. It is

important to report explicitly on the different perspectives and influences, in order to achieve a holistic picture of what is happening for each of these learners. Secondly, compiling learner profiles is an important diagnostic tool, helpful in ensuring that personalised learning support is most effective for adults. Besser *et al.* (2004), in their study of adult readers attending literacy classes in England, make interesting use of graphic “reader profile analysis” (pp.48-53), discussed earlier. In the main study I decided to use verbal profiles reflecting the complex individual differences within a very diverse group of learners:

ML1 is a 22 year-old student at an FE college, undertaking a foundation degree. She was assessed as being dyslexic at the age of 13. She says she was given no additional support at school, yet she had extra time in public examinations. She avoids doing more than essential reading for her course. Her initial interview reveals that she has problems tracking print, finds it hard to work out unfamiliar words from sounds and struggles with recall and comprehension. ML1 had an appointment with a behavioural optometrist partway through the intervention who explained some of her tracking problems and agreed to provide corrective therapy (funded through the Disabled Students' Allowance (DSA). Credit is due to the expertise of her tutor in identifying this need and making the arrangements. My collaborator researcher subsequently wrote her MA dissertation on this topic, as such specialised intervention is rare in FE colleges.

ML2 is 36 years old and attends a community adult literacy class. She had no schooling before the age of 10. She moved from Zambia to England at the age of 15 and learned spoken English at a local

college. She struggles with everyday functional reading, often trying to guess words or relying on her children and friends to help her. In addition to a lack of literacy in her mother tongue (a form of Bemba), ML2 is affected by her bilingualism. The contrast and conflict between the two languages she now speaks may have affected her development of English reading.

ML3 is 49 years old. His reading is restricted to what little he needs for work. He appears to have had no constructive help at school and only started attending community adult literacy classes a year ago. He relies on his sister to help him deal with complex reading material. He has a particular interest in rock music.

ML4 is a 16 year old college student following a Level 2 vocational course. He was diagnosed as dyslexic at primary school, receiving weekly help for reading and spelling, which continued in secondary school. In his interview he said it was hard to hold sounds of words in his mind.

ML5 is a 36 year old learner attending a community adult literacy class. He struggled at school and only really made progress with reading through his work with, and passionate interest in, the railways. His literacy problems appear to pre-date a serious head injury in early teenage years. He also has problems with aspects of his memory.

ML6 is 22 and brought up originally in Pakistan. She recalls her father paying for extra tuition to improve her English. She is bilingual in English and Urdu. Undertaking a Level 1 childcare course at a

college of further education one year ago, ML6 was diagnosed as having 'dyslexic traits' in addition to second language interference. She struggles to retain the information for her course and needs substantial additional support. After the end of the research period she progressed onto a level 2 course.

ML7 is 47 years old and was brought up in Jamaica in a family with little literacy. ML7 has bad memories of feeling frightened during her limited time at school. She did not progress to secondary school. Her speech shows signs of the Jamaican patois idiom, which also extends to her reading and writing of noun and verb inflections. She is aware of this and tries to regularise it in formal settings. She is on a level 2 childcare course at a college of further education. ML7 has diabetes which affects her eyesight, though this is corrected by glasses.

ML8 is 47 years old and of Black Caribbean origin, but brought up in England. She attended a special school from the age of 8 to 16. She had a variety of factory and shop work, but is currently unemployed and attending community based adult literacy and numeracy classes. She cannot recall when she made a breakthrough with reading, but now enjoys reading fiction.

ML9 is a 39 year old Nigerian who settled in England within the last 10 years. She attended a village school and did not achieve literacy in either her native Igbo language or English, despite studying both. She maintains spoken fluency in both languages.

ML10, aged 24, was diagnosed as dyslexic at the age of 13 and again last year as part of her adult literacy programme. Her schooling was disrupted through frequent moves and through truanting. She had extra classes for reading and spelling and support at secondary school, but does not recall a breakthrough until more recently when she developed an enthusiasm for reading. She reads to her children.

Five additional learners signed up for this research project, but for various reasons did not complete the intervention phase or the summative assessment. They were all learners selected by my collaborators as suitable for me to work with, but these were less stable arrangements than where their own learning support tutor opted to do the research intervention. Pressures of college attendance and real-life issues are typical of the factors that affect learners' progress, particularly adults with busy working and family lives. All of the learners in this study attended on a voluntary basis and though made aware of the possibility of personal development knew that the main gains were for the research. Results for the five learners who dropped out are not included in the analysis.

For the ten learners who completed all three phases of the study, there was some variation in the time span between initial and summative assessment. All tutor/learner pairs met for 7 or 8 sessions. Natural attendance patterns including term breaks and holidays affected duration. For nine of the ten learners the range of time between initial and summative assessment involved an intervening period of between 52 and 73 days. For ML10 a total of 163 days (5 months) intervened owing to various personal and

practical factors. I am aware that varying time scales could have affected the findings.

Starting levels (see Table 6.1) were estimated from information given by the tutors referring learners and also corresponded to the choice of reading passage given for initial and summative assessment. Three learners are bilingual and five had a prior assessment of dyslexia, which may be important factors. The sample, though small and not purposively selected, is representative of the range of learners attending adult literacy classes and college support programmes.

Table 6:1 Summary of starting levels

Starting level*	Male (number)	Female (number)	Total
E1, E2 and E3	ML3, ML5 (2)	ML2, ML7, ML9, ML10 (4)	6
L1 – L4	ML4 (1)	ML 1, ML 6, ML8 (3)	4
Bilingual		ML2, ML6, ML9 (3)	3
Diagnosed as dyslexic	ML4 (1)	ML1, ML6, ML7 ML10 (4)	5

*The Adult Literacy Core Curriculum, published in 2001 (The Basic Skills Agency (BSA) 2001) first set levels for England, based on existing national vocational qualification (NVQ) standards at Level 1 (roughly the equivalent to the attainment of a 14 year old) and Level 2 (equated to the performance of 16 year old school leavers). It added in three "Entry levels" (E1, E2 and E3) to signify earlier stages in literacy development and subsequently a "pre-Entry level" for adult learners who were largely pre-literate. Level 3 equates to English GCE Advanced level.

6.3 Initial assessment results

Single word reading

Four tests of single word reading were administered. The first, WRAT4 (Wilkinson and Robertson 2006) was used to ascertain a standardised level for reading, which can be replicated post-

intervention by using the two equivalent lists provided. The remainder served to elucidate preferred cueing systems when decoding words. Success in reading nonword and regular word lists indicates ability to use phonic cueing. Success in decoding irregular words indicates strengths of visual recall, though this is also dependent on having a wide enough vocabulary to draw on. In the irregular word list, it is important to establish, by questioning, whether the reader is likely to have encountered target words in their reading experience. If words are not in such an internal reading lexicon, then the final score is adjusted. Table 6.2 summarises the results for this cohort.

Table 6:2 Summary of results from single word tests at initial assessment

Learner	WRAT 4 (blue form) Standard score (percentile)	Nonwords (Turner 2003) Raw score: no. items read correctly out of 39 (%)	Long regular words Raw score: no. items read correctly out of 20 (%)	Irregular words correctly read N.B. the total possible score is variable, dependent on words judged to be in the reader's visual lexicon*
ML1	97 (42)	30 (77%)	13 (65%)	38/39 (97%)
ML2	59 (0.3)	12 (31%)	0	15/19 (79%)
ML3	55 (0.1)	5 (13%)	0	11/20 (55%)
ML4	75 (5)	27 (69%)	6 (30%)	26/27 (96%)
ML5	55 (0.1)	5 (13%)	0	20/21 (95%)
ML6	66 (1)	10 (27%)	8 (40%)	20/28 (72%)
ML7	58 (0.3)	3 (8%)	0	18/26 (69%)
ML8	79 (8)	13 (33)	9 (45%)	31/36 (86%)
ML9	55 (0.1)	3 (8%)	0	9/13 (69%)
ML10	62 (1)	22 (56%)	3 (15%)	18/26 (69%)

*this judgement is based on asking each learner if they think they have encountered the target word in their prior reading and subject to accurate recall.

All learners fall into a below average range for single word recognition with all but ML1 registering as in the “low” or “lower extreme” bands for WRAT 4. Each of them, to varying degrees, has difficulty with phonic decoding as measured by the reading of pseudo words and long regular words. Learners ML2, 3, 6, 7, 9 and 10 additionally have limited automatic access to a visual lexicon, as measured by the irregular word list. Even for words they claim to have encountered before, they score less than 80% accuracy of

recognition. For most learners (all but ML1 and ML8) this is compounded by narrow ranges of vocabulary they say they are familiar with. It is important to distinguish different aspects of word recognition. Learners who have difficulty decoding regular words or nonwords may have phonological processing difficulties (Klein 2003) and/or a lack of prior tuition in phonic skills. Learners who struggle to access words instantly from a visual lexicon may have visual processing difficulties and/or short term memory problems. There may also have been factors preventing them building up an extensive sight vocabulary in the first place. Vocabulary issues can become a vicious cycle as readers not readily compiling or accessing visual lexicons for words are put off reading that might extend that vocabulary.

Passage reading (speed, accuracy and recall/comprehension)

The **reading of an extended passage** for the purposes of assessing reading speed, miscue analysis and comprehension presents one immediate practical issue - that of knowing what level of text to start with. The choice was based on a professional judgement by each researcher, looking at evidence from interview, what they already knew about the learner and the course they were on, and results from WRAT 4. In Chapter 9 I discuss some emerging issues over the use of readability indices.

Each collaborator researcher recorded their learner reading the passage and supplied a text marked up using the protocol outlined in Klein (2003) for me to code. For quantitative data, simple measures of speed, accuracy and comprehension were taken (Table 6.3). Also following the protocol from Klein (2003), learners were asked to relate in as much detail what they had just read about and answered

a number of questions. For the questions, a simple score was set as a percentage. For unprompted recall, I made a professional judgement in the form of a mark out of ten. While not ideal as a measure of comprehension, once more I aimed to be consistent in my judgement, rather than rely on other collaborator researchers. There is no easy way to assess comprehension (see the discussion in Chapter 9).

Table 6:3 Summary of initial assessment findings from passage reading

Learner	Adult core curriculum level of passage*	Speed: words per minute (wpm)	Accuracy % non miscues	% Recall un-prompted	% Recall in response to questions
ML1	L3	105	97	20	20
ML2	E1	36	78	30	17
ML3	E1	26	88	20	50
ML4	L2	47	85	20	63
ML5	E3	50	92	30	33
ML6	L1	90	90	30	13
ML7	E3	57	85	70	50
ML8	L2	102	95	20	43
ML9	E1	35	67	50	60
ML10	E3	38	91	60	67

* see note to Table 6.1

All learners in the cohort struggled both with spontaneous recall of the passage; only 3 attained more than 50% comprehension when prompted with questions. All but learners ML1, 6 and 8 were

extremely slow at reading. Levels of accuracy (the proportion of correct words relative to the total word count) were in the 85-97% range for all but one learner, though it must be remembered that the level of readability of the passage was selected deliberately to be appropriate for the learners level of prior attainment (designed to give enough miscues for analysis but not to be so hard as to inhibit understanding). The exceptions to these high levels of accuracy was learner ML9 who really struggled with the lowest level of text available. I explore in her profile (Chapter 7) some of the cultural factors that had a large impact on ML9's performance.

For each learner in the main study I compiled a diagnostic summary of findings from initial assessment to give myself and collaborator researchers a basis for an initial choice of learning approaches. I tasked each researcher with choosing at least two of my guidance sheets to trial plus at least two other strategies of their own. While needing evaluative data for the effectiveness of the guidance sheets, I also wanted the best of a problem solving and responsive relationship between a tutor and their adult learner. In adult education the benefits of intensive one-to-one support have long been recognised, with the tutor acting as a "facilitator" (Jarvis 1995 pp.111-114), though sadly in times of financial stringency group work is seen as more economical.

6.4 Choice of approaches in the intervention stage

Each collaborator researcher (myself included) planned which approaches to use and the appropriate guidance sheet. Each of the ten pairings of researcher and learner experimented with strategies related to enhancing fluency (F). The pairs also used a combination of approaches based on the other three strands, **alphabetics (A)**,

comprehension (C) and vocabulary development (V). Tables 6.4-6.7 summarise the approaches used and how both learners and researchers rated the effectiveness of these on a scale of 1 to 4 (where 1 is excellent, 2 is good, 3 is satisfactory and 4 is not useful). Though a subjective rating, these figures and the additional evaluative comments give a small amount of additional data on what was covered.

Table 6:4 Alphabets (word attack) strategies used

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Enhanced Look Cover Write Check (LCWC)	A	A1	ML3	5	3	2	
Enhanced Look Cover Write Check	A	A1	ML5	1	4	4	This learner got very confused between what he needed for reading and for spelling, and so the strategy was discontinued.
Rime prompting	A	A2	ML2	3	1	2	Tutor was not particularly systematic
Onset rime training	A	A3	ML2	4	2	2	Learner preferred the visual approach
Onset rime training	A	A3	ML6	2	2	2	This technique also helped with pronunciation.
Word analysis	A	-	ML4	3	1	1	Based on LCWC chunking, but not clear if the practice element of this approach was followed through
Work on vowels from Toe by Toe (Cowing and Cowling 1993)	A	-	ML9	4	1	2	Very basic auditory and visual attention to the 5 short vowel sounds in the context of simple words and sentences.
Work on root words and suffixes	A	-	ML10	1	2	2	Helped identify words
Average rating		Used by 7 learners			2.0	2.13	

Table 6:5 Comprehension strategies used

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Survey, Question, Read, Recite, Review (SQ3R)	C	C1	ML1	3	2	-	Included a mindmapping element
SQ3R	C	C1	ML4	1	-	-	It seems the tutor did not recognise she was drawing on C1 for this strategy; hence it was not fully described and not rated by tutor or learner.
SQ3R	C	C1	ML8	5	2	2	
Strategic questioning	C	C2	ML1	1	1	-	Enhanced by use of highlighters
Strategic questioning	C	C2	ML7	2	3	3	
Informal use of pictures to aid comprehension	C	-	ML6	2	1	2	In the context of a real picture book chosen by ML6
Examination of textual features prior to reading	C	-	ML7	2	2	2	e.g. looking at index, glossary, headings, format of textbook
Writing notes to aid understanding and recall linked to a course assignment	C	-	ML7	1	2	3	Tutor acted as scribe, modelling ways of making information more memorable
Average rating		Used by 5 learners			1.86	2.4	

Table 6:6 Fluency strategies used

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Tracking aids	F	F1	ML3	6	2	2	Blue overlay with ruler best
Tracking aids	F	F1	ML5	1	1	-	Blue/green paper and ruler overlays plus wider spacing
Tracking aids	F	F1	ML6	3	4	2	Originally used finger, then tried ruler, finally discarded aids with better fluency
Tracking aids	F	F1	ML7	5	2	2	Pink paper or overlay, magnifying sheet
Paired reading	F	F2	ML2	6	1	1	
Paired reading	F	F2	ML3	5	1	1	
Paired reading	F	F2	ML4	1		4	Learner couldn't keep up so didn't like it
Paired reading	F	F2	ML5		4	3	Distracted learner - moved to just prompting odd words – served to help learner maintain meaning more easily
Paired reading	F	F2	ML6	6	1	3	Reading with more expression now and taking more account of textual features, e.g. Speech marks.
Paired reading	F	F2	ML7	4	2	3	
Paired reading	F	F2	ML8	1	4	4	
Paired reading	F	F2	ML9	3	2	2	
Paired reading	F	F2	ML10	1	4	4	Learner stopped to listen to tutor
Use of "Texthelp"	F		ML1	2	1	1	Software package: used for reading back text and highlighting key words (Texthelp Systems Ltd 2010)

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Repeated reading	F		ML2	4	2	1	Deliberately revisiting the same text several times, with the expectation of gains in confidence and fluency
Reading with music	F		ML3	2	1	-	Reading song lyrics (an idea taken from a learner in the pilot study)
Language experience	F		ML4	1		1	Creating text from the learner's own dictated words
Repeated and copy reading	F		ML4	1		2	Tutor read first then learner repeated
Repeated and copy reading	F		ML8	5	2	2	
Highlighting full stop breaks	F		ML8	2	1	2	Deliberate exercise with a highlighter pen prior to reading, to give a more visual cue
Reading from taped books	F		ML9	5	1	1	Also listened at home with 4 year old daughter
Average rating		Used by 10 learners			2.0	2.16	

Table 6.7 Vocabulary development strategies used

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Work on vocabulary using the vocabulary frame	V	V1	ML1	1	1	1	Chunking words didn't help; concentrated on meaning and use in spoken vocabulary - used a combination of V1 and V2
Work on vocabulary using the vocabulary frame	V	V1	ML3	5	1	2	Enhanced impact with clipart pictures
Work on vocabulary using the vocabulary frame	V	V1	ML5	5	1	1	Pictures helped
Work on vocabulary using the vocabulary frame	V	V1	ML6	6	1	2	Meanings and chunking and images, mnemonics
Work on vocabulary using the vocabulary frame	V	V1	ML7	5	1	1	ML7 said she loved working on words and images.
Work on vocabulary using the vocabulary frame	V	V1	ML8	4	2	2	
Work on vocabulary using the vocabulary frame	V	V1	ML10	2	2	2	
Work on word meanings in sample sentences	V	V2	ML1	1	1	-	
Work on word meanings in sample sentences	V	V2	ML4	2	1	1	Modified version putting words into sentences in first session - then used card next time

Strategy	Strand	Guidance sheet	Learner	Number of sessions	Rating learner	Rating tutor	Comments
Work on word meanings in sample sentences	V	V2	ML5		1	1	
Work on word meanings in sample sentences	V	V2	ML9	4	1	2	Putting words into sentences, colour coding words
Work on word meanings in sample sentences	V	V2	ML10	3	1	2	
Electronic spelling dictionary for meanings	V		ML6	6	1	2	
Dolch words	V		ML9	4	2	3	Some of the most common words in English, a mixture of regular and irregular. Work on using them in sentences and making them look more memorable for reading.
Average rating		Used by 9 learners			1.21	1.62	

6.5 Data analysis

I undertook a range of data analysis relating to my research questions, with several thoughts in mind:

- How far could numerical data (my dependent variables) cast light on individuals' progress (question 4)?
- How well do those dependent variables measure up in terms of validity, reliability and credibility as measures of progress made (question 1)? To this extent my research is methodological as well as outcomes based.
- How far could I generalise from the learners in my study to other adult learners of similar types (gender, starting level, language background and whether or not it can be said that their reading difficulties stemmed from dyslexia or another aetiology) (question 4), and how far could I come to general conclusions about the intervention methods I used (question 3)? It quickly became apparent that with a sample size of just 10 participants I could not rely on quantitative data to elucidate detailed findings of this kind, though qualitative observations and data at the level of patterns for each individual (learner profiles) could still answer some of the questions.
- Qualitative analysis could also be used to describe the practical and ethical issues in measuring improvements (question 2). One of the most interesting outcomes of this research is the scope it gives to cast light on assessment practice and its pitfalls.
- Answers to question 5 should come through detailed reflection on both the qualitative and quantitative analysis of findings from studies such as mine.

6.6 Quantitative data on progress made by learners between the initial and summative assessment phase

Five numerical measures (dependent variables) were calculated from the differences between scores by learners in the initial and summative assessment phases:

- word recognition as measured by WRAT4;
- reading accuracy;
- reading speed;
- reading comprehension;
- reading effectiveness.

They were plotted into a Microsoft Excel spreadsheet. Using the statistical formulae facility in this software, I worked out average differences for the cohort of learners and tested the significance of those differences, using Student's *t* tests. Indications are that this statistic may be valid even for small sample sizes (Bailey 1995), though caution should still be exercised in forming conclusions.

Learners were tested on the **word recognition** subtests in WRAT4 (Wilkinson and Robertson 2006). Six out of ten of the learners gained a higher score, with an average difference of 1.5 standard score points. Using a *one-tailed* Student's *t* Test (predicting that a positive improvement in score was likely), the change proved not quite significant at $p = 0.07$ (Table 6.8). The scale of this improvement, as well as being statistically non-significant, is modest, considering the fact that the test manual claims a possible error range of 6 to 7 points while still maintaining a 95% confidence level in the reliability rating of the test. Simple tests of arbitrary word recognition are blunt tools when trying to measure the impact of

support for reading skills that cover a wide range of strategies and aspects.

Table 6:8 Differences in WRAT4 single word reading standard scores

Learner	Gender	Starting level	Tutor	WRAT word recognition* SS 1	WRAT word recognition* SS2	Difference	Significance
ML1	F	L3	T1	97	101	4	
ML2	F	E1	R	59	62	3	
ML3	M	E1	T2	55	55	0	
ML4	M	L2	T3	75	81	6	
ML5	M	E3	T2	55	58	3	
ML6	F	L1	T4	66	62	-4	
ML7	F	E3	R	58	61	3	
ML8	F	L2	R	79	80	1	
ML9	F	E1	R	55	55	0	
ML10	F	E3	T5	62	61	-1	
					Average difference:	1.5 improvement	
t Test significance ratings for differences							p = 0.07

**Blue test form used for initial assessment and green test form for summative assessment. The words are different but judged to be equivalent in difficulty.*

When reading a passage for assessment, reading accuracy was calculated as the percentage of words which were not miscues or refusals (Table 6.9). There was more variability in this measure, with four of the learners losing accuracy between initial and summative assessment. The overall average improvement for the 10 learners was 1%, not significant at $p = 0.18$. A discussion of reading accuracy follows in Chapter 9.

Table 6:9 Differences in word accuracy

Learner	Accuracy % non miscues 1	Accuracy % non miscues 2	Difference (rounded)	Significance
ML1	97.00	98.15	1	
ML2	89.74	85.71	-4	
ML3	88.03	93.65	6	
ML4	85.41	90.93	6	
ML5	92.05	93.21	1	
ML6	90.23	88.76	-1	
ML7	85.10	88.30	3	
ML8	94.53	93.30	-1	
ML9	66.94	71.43	4	
ML10	91.39	87.92	-3	
		Average difference:	1% improvement	
t Test significance ratings for differences				$p = 0.18$

Reading speed while reading a passage (Table 6.10) showed an average decrease of one word per minute in summative assessment but very wide variability, with equal numbers of learners increasing and decreasing their reading speed. Overall the change in reading speed is not statistically significant ($p = 0.46$). Given that all ten learners worked on strategies to improve their fluency, on the face of

it, this finding might be seen as disappointing. However, I will argue that in some cases, slowing down is a proactive strategy to aid better word accuracy and to keep hold of meaning in a text. (See Chapter 9.3 for a discussion of this.)

Table 6:10 Differences in reading speed (words per minute)

Learner	Speed 1 (wpm)	Speed 2 (wpm)	Difference	Significance
ML1	105	127	22	
ML2	36	59	23	
ML3	26	37	11	
ML4	47	47	0	
ML5	50	39	-11	
ML6	90	66	-24	
ML7	57	46	-11	
ML8	102	92	-10	
ML9	35	30	-5	
ML10	38	38	0	
		Average difference:	-1 wpm	
t Test significance ratings for differences				p = 0.46

Reading comprehension is the most difficult feature of reading to quantify precisely. A number of proxies for reading comprehension have been developed by test designers. My two indices for this study were the completeness of unprompted recall (since the texts were removed before questioning) and understanding of the passage followed by responses to specific questions. I combined these two into an overall percentage score. While this measure is clearly subject to professional judgement, because I was most interested in *differences* in the score before and after the intervention phase

(rather than an absolute score), I think I have mitigated some of the effects of subjectivity. Seven of the ten learners improved their score on comprehension, but the average increase was not significant ($p = 0.25$) (Table 6.11). A discussion of comprehension follows in Chapter 9.

Table 6:11 Differences in reading comprehension

Learner	Comprehension 1	Comprehension 2	Difference (rounded)	Significance
ML1	20.00	30.00	10	
ML2	25.00	37.50	13	
ML3	31.25	77.78	47	
ML4	38.89	44.44	6	
ML5	31.25	35.29	4	
ML6	22.22	26.32	4	
ML7	56.25	50.00	-6	
ML8	29.41	47.37	18	
ML9	53.85	26.67	-27	
ML10	62.50	41.18	-21	
		Average difference:	5% improvement	
t Test significance ratings for differences				$p = 0.25$

Table 6.12 shows a measure of **reading effectiveness**, used by Cole (2010), when evaluating the effectiveness of his “SuperReading™” course. His reasoning is that reading is a trade off between reading quickly and retaining recall and comprehension. His course gives readers specific training in increasing their speed, using various tracking and fluency techniques, to the maximum possible level before recall is impaired. His measure of reading efficiency, then, is simply speed (in words per minute) multiplied by

the percentage of correct answers to questions testing comprehension after the passage is read (score out of 100). There was no significant increase in reading effectiveness for this cohort, mainly because of the large variation in reading speed.

Table 6:12 Differences in reading effectiveness

Learner	Reading effectiveness 1	Reading effectiveness 2	Difference (rounded)	Significance
ML1	21.000	38.100	17.10	
ML2	9.000	22.125	13.13	
ML3	8.125	28.778	20.65	
ML4	18.278	20.889	2.61	
ML5	15.625	13.765	-1.86	
ML6	20.000	17.368	-2.63	
ML7	32.063	23.000	-9.06	
ML8	30.000	43.579	13.58	
ML9	18.846	8.000	-10.85	
ML10	23.750	15.647	-8.10	
		Average difference:	3.46 improvement	
t Test significance ratings for differences				p = 0.19

I was interested to explore if there were any significant factors contributing to differences in the way learners score from initial assessment to summative assessment, looking at learner characteristics and intervention effects. I moved over to the Statistical Package for the Social Sciences (SPSS) for more choice of tests. Starting with one way analysis of variance (ANOVA) (guided by Brace *et al.* 2006; George & Mallory, 2003) I compared changes in my dependent variables looking for patterns. This was a useful activity to undertake as it helped cast light on the methodology for

data analysis in other studies. Individual trends will be discussed in Chapter 9; however the full results of my analysis will not be quoted in this thesis as a larger sample size would be needed to give statistical significance.

In summary, the results of quantitative analysis proved inconclusive, because of the small sample size and the variation within the learner group. However, some interesting trends were uncovered and methodological pointers for if the research were repeated.

Having explored the quantitative aspects of my data in the form of analysing group performance, in the next chapter I turn to more extended individualised and qualitative findings, starting with detailed summative profiles of the learners I worked with. My aim is to illustrate how different each subject is in the pattern of strengths and difficulties they present and in the different ways that they made progress. In Chapter 8 I undertake a finer grain qualitative analysis comparing pairs and subgroups of learners. In this way I examine patterns both within and between different cases.

Chapter 7 : Profile analysis

The profiles that follow form a sample of the findings for the 10 learners, two of whom I worked with myself, and one who worked with a collaborator researcher. The remainder of the profiles can be found in Appendix 25. The accounts attempt to be mainly factual and free of formal references to theory, so as to “display enough evidence for the reader to reach [their] own conclusions” (Yin 2009 p.164). In Chapter 9, I then discuss and interpret these findings. Because numerical designations seem inhuman in the context of learner profiles, in this chapter, I use pseudonyms, though they are retained elsewhere for brevity.

A further reason for developing detailed profiles of this kind is to demonstrate to practitioners the richness of diagnostic material that can be obtained by working reflectively with a learner over a period of time. Making close observations, evaluating progress and weighing up the impact of different strategies constitute a powerful type of formative and summative assessment. Insights of the kind brought out in these profiles could go a long way towards providing qualitative answers to research question 5, concerning those features of good support for adults’ reading skills that most influence their improvement.

7.1 Profile of learner ML7 (Jill) following intervention and summative assessment phase

Jill had a starting level of Entry 3 of the adult core curriculum, based on the information gained during the initial assessment phase and in particular the level of passage she read for miscue analysis. Having progressed through adult literacy classes and onto an NVQ level 2

course in childcare, there is still a significant mismatch between her reading ability and the content of the course she is following. We worked on reading from the set textbook for her course. Despite much “common sense” knowledge from bringing up her own children and grandchildren, she struggled both with the conceptual content and the readability level of this textbook.

Jill’s initial assessment indicated a very limited range of sight vocabulary combined with aspects of phonological processing difficulty, as she struggled both with multisyllabic regular words and nonwords.

During the six hours of intervention, we worked on:

Fluency strategies:

- paired reading (F2);
- repeated reading of the same text;
- sharing the reading so that sometimes Jill could listen as I read;
- use of pink paper and a pink overlay. Though visual stress has not formally been diagnosed, this was a preference discovered by her tutor. I am not convinced this had a marked effect, though an optometrist’s opinion might usefully be sought.
- more crucially, in my view, was the correct font size or magnification of text. Jill has diabetes and her eyesight does not seem perfectly corrected by the glasses she has (and frequently leaves at home). I provided a magnification aid for emergencies and to further boost the print size.

Vocabulary development strategies:

- Using the vocabulary frame (V2) we collected useful words from her text book and words with structural similarities, for instance, *theory, theories, theorist; process, procession*, making them memorable with colour coding of letter strings and patterns and simple pictures. We developed amusing and active mnemonics, for instance, with *cognitive (cog-nit-ive)* the thought of cog wheels and scratching one's head because of nits helped reinforce the idea that cognitive development is to do with how a child progresses in their thinking and brain development. We discussed and paraphrased the meanings of words.
- We consulted the glossary at the back of the textbook to highlight the meaning of other useful terms.
- We discussed word inflections and the difference between spoken and written language. Jill is aware of the fact that her Jamaican patois leads her to omit -s endings to nouns and verbs. This is a sensitive issue. I do not wish to change her beautiful speaking style and undermine her heritage (although staff at her nursery work placement have mentioned the issue of her speech needing to be a role model for children from all backgrounds). When coding these differences in her miscue analysis I had a dilemma as to whether to count them as inaccuracies or simply instances of vernacular. In the end I decided on the former, led by Jill herself saying it was important to her to try for "standard English" when reading. She made fewer vernacular miscues in the summative assessment (7 compared with 13 in the initial assessment).

Comprehension strategies:

- As well as consulting the glossary we also looked at other textual and stylistic features of Jill's textbook, the index, colour coding of sections and topics, illustrations and formatting of information to make sense of the content.
- We used a "strategic reading" book mark (C2) to ask questions to prepare Jill before she read, focussing on "why are we reading this; what do I know already about this topic; what do I need to look out for?"
- In response to a course assignment I helped Jill by writing notes of what we read on one occasion, summarising what she needed for her next class. Jill had limited recall of the content of our notes the following week. Jill is under a lot of pressure to keep up with her course, her work placement, her family commitments and other life issues. It is hard to tell without further testing whether Jill has short-term memory difficulties, whether the conceptual content of her course is really too hard, or if time pressure is the main effect. It is likely that each of these effects has an impact in combination.

Word attack strategies:

- I made a deliberate decision not to focus on systematic word attack skills with Jill for two reasons. Firstly, there was not time. Jill quite rightly wanted to concentrate on reading for her course. This involved vocabulary that was both semantically hard to grasp and morphologically complex. Secondly, Jill has a legacy from her Jamaican schooling of analysing words from letter names rather than units of sound. It is difficult to change this habit in a short time. We focused

instead on making a small selection of words look more memorable and hold meaning more easily.

Progress Jill made

- Jill improved 3 standard points in her WRAT 4 word recognition score. Ironically, this increase comes simply from the differences in the two forms of the test (blue used first, green used second) as the number of words recognised was the same (14).
- She improved by 3% in word accuracy during passage reading (though still leaving her at “frustration level” on 88% (terminology discussed in Chapter 9.3). Some but not all of this improvement was accounted for by a reduction in a number of vernacular miscues.
- She dipped in reading speed from 57 to 46 words per minute.
- Her comprehension score declined by 6%.
- Jill said that she loved working on words and their meanings. She laughed at our shared mnemonics and spent time at home looking at her vocabulary sheets (V1), enlisting her teenage daughter to help her. She had no regrets about the programme of intervention except that the time was too short. Her subjective confidence rating of her skills as a reader rose from 4 - 5 at the outset to 5 – 6 out of 10.

7.2 Profile of learner ML9 (Helen) following intervention and summative assessment phase

Helen struggled to read a passage at Entry 1 level of the adult core curriculum, achieving only 67% accuracy at initial assessment. Brought up in Nigeria, Helen spoke Igbo, but was educated in English. The village school she attended from the age of 5 till her teenage years appeared to have taught her little more than the

alphabet. She says she relied on a friend to help her. Literacy may not have been so important to Helen in her early years, in a culture that did not value it so highly, but Helen is determined to redress this now, for the sake of her family. Like Sarah (see her profile in Appendix 25), Helen came to the UK as an adult and attends an adult literacy class at the same venue. She has a 4-year-old daughter with whom she tries to read.

Despite the low level of word recognition accuracy, and little or no phonic word attack skills, I got a sense that Helen had a basic awareness of sentence structure and meaning. Her miscues retained syntactic integrity and her recall of the facts of the passage (when not impaired by vocabulary she did not know) was surprisingly good. I was also encouraged by the fact that Helen had instant recall of the words (albeit few in number) in her visual lexicon, as assessed in reading irregular words.

During the six hours of intervention, we worked on:

Fluency strategies:

- Helen was used to borrowing easy adult readers from her tutor. She read to me one she had read on several occasions and showed a much higher level of accuracy than in the assessment passage, an effect of practice and repetition. In conversation, she also showed good understanding and recall of the events narrated. I encouraged Helen to check the illustrations when stuck over a particular word or sentence.
- When introducing new books, we experimented with paired reading (F2) to give a model of more fluent reading. Helen rated this as a good strategy in her evaluation.

- Given that Helen was willing to practise reading at home, I decided to record one of the adult easy readers onto an audio CD, so Helen could more readily follow the text while listening at home. This strategy was also adopted with a view to encouraging Helen to read with her daughter. I purchased two children's books with accompanying CDs. I encouraged Helen to practise reading these with the tapes, but also listen with her daughter.

Word attack strategies:

- I decided that Helen might significantly improve her chances of decoding unfamiliar words if she had a better grasp of vowel sounds. During four of our six sessions we referred to the "Toe by Toe" manual for structured multi-sensory instruction (Cowling and Cowling 1993), with its visual images to associate with simple vowel sounds and laborious drill sentences containing only 3- and 4-letter words. I prompted Helen with "it's an elephant word, it's an apple word..." to match those images. To make them even more accessible we chose a colour coding system to highlight each vowel in words. In subsequent weeks I made up simpler sentences for Helen to read (for example "Can Dan pass the bag?" and "Tell Ben to get a pet"). I got the impression that Helen could see the differences in vowels, but not necessarily articulate their sounds without my memory prompts.

Vocabulary development strategies:

- Encouraged by her propensity to recognise whole words by sight I undertook a parallel strategy of teaching Helen some of the Dolch words (English-Zone, 2004). There are 220 "Dolch Basic Sight Words." Helen could already read 84 of

the first 115 of these, even as words out of context. In a version of guidance sheet V1, we took the first 10 Dolch words Helen did not know, generated sentences using five of these, highlighting the target word. I tasked Helen with writing sentences for the next five, but in a pattern that emerged, Helen avoided writing between our sessions, whether deliberately or through lack of time, I am not sure.

- When reading adult reading books together, I noted down target words that Helen struggled with for vocabulary development (V2). We discussed and highlighted word components (initial letters, consonant blends and rimes). Helen seemed genuinely interested in patterns in words, and rated this strategy as excellent.

Progress Helen made

- If we were to measure Helen's progress only using a standardised word recognition test (WRAT4) score this would be disappointing. Helen was one of two learners to remain on the lowest percentile (0.1) for this test.
- However, when reading a passage, Helen made a notable 4% gain in accuracy (though still remaining well down in the frustration level at 71%).
- Her reading speed slightly reduced, despite this gain in accuracy. I had noted Helen could read rapidly and fluently when she had practised a text, so this is perhaps simply an effect of unfamiliarity.
- Helen's comprehension also declined markedly (a 27% decrease). The questions she failed to answer were related directly to vocabulary she struggled with.
- The big gain for Helen was her increase in confidence and enthusiasm for reading. She rated all of the strategies either

good or excellent, with particular praise for the impact of taped books. It is also particularly pleasing that she started reading with her 4-year-old daughter, as this is direct evidence that input within adult literacy has an intergenerational impact.

7.3 Profile of learner ML3 (Bill) following intervention and summative assessment phase

Bill had a starting level of Entry 1 of the adult core curriculum, based on the information gained during the initial assessment phase and in particular the level of passage he read for miscue analysis. He remembers little of his early schooling, but recognised the barrier to learning of being a virtual non-reader. He still relies on his sister for help with important documents. He has learned the basic vocabulary of words he needs to read at work. His tutor, T2, (acting as collaborator researcher) worked with Bill on a one to one basis outside the adult literacy group sessions he already attended with her. They discovered a mutual interest in popular music which proved a useful theme for their reading.

Bill's initial assessment indicated a very limited range of sight vocabulary and a difficulty in decoding multisyllabic regular words and nonwords. It is possible that through the lack of intervention since leaving school Bill is still anchored at the logographic stage of reading, where individual words are seen in isolation. He has, however, picked up that reading has meaning and that sentences should make sense, which is useful. Bill expressed his embarrassment and frustration at not being able to read well.

Bill also suffers from visual stress (Meares Irlen syndrome) with the effect that words appear to move around the page. This can be stabilised using a blue coloured overlay. He uses his finger to keep his place. Bill read very slowly (26 words per minute) in the initial assessment and with just 88% accuracy. His comprehension was restricted to approximately 30% of the detail he could recall.

During the six hours of intervention, Bill worked with his tutor on:

Fluency strategies:

- Bill's tutor reproduced high interest reading material on pale blue paper but also encouraged Bill to use a coloured acetate "reading ruler," which has a line marked to help with tracking (F1). Bill used this instead of pointing with his finger.
- They also used paired reading (F2) as an aid to more confident reading in each session. Having his tutor read alongside him enabled Bill to access texts which were at a much higher level of readability than his assessed level. Bill read along with song lyrics, biographical material from the internet and newspaper articles. Bill's tutor noted that he did not just wait for her to say a word, he really did read in parallel. On the couple of occasions when he read on his own, Bill was much more hesitant. Left to himself, Bill makes small visual slips (e.g. confusing 'was' and 'has').
- The nature of the reading material also fostered fluency. In particular, reading song lyrics well known to Bill. He listened to the songs on CD after the session, following the transcript on paper (this is a technique I showed my collaborator researcher following the insights from my initial study with another learner from her group).

Vocabulary development strategies

- Bill's tutor recognised early on that he had a difficulty in recognising and assembling the separate sounds of words and understanding the concept of a syllable. Although, for instance, she discussed the sound that is common between 'certainly' and 'certificate' she discovered that she needed to make a visual link either colour coding the sound pattern or actually misspelling it as the word 'sir' which Bill knew.
- This led Bill's tutor to use the vocabulary frame (V1) to record their working on words. Conflating this approach somewhat with A1 (the enhanced Look Cover Write Check method), she encouraged Bill to try to learn the words they worked on each week, in his case relying on the visual prompt as an aide-memoire.
- While working on vocabulary for a particular topic or passage, Bill was encouraged to be active in choosing the way to break words into chunks to make them more memorable.
- Bill's tutor reinforced the learning by repeating the reading of the same or similar material from week to week, noting the benefit of this.

Comprehension strategies

- These were mainly informal in nature, comprising brief discussion about the meaning of texts

Progress Bill made

- Bill was the learner who showed the most notable gains between assessments.

- Despite his score on WRAT 4 lying at the lowest percentile for both assessments, Bill had the greatest increase in word accuracy (a 6% increase).
- His reading speed went up by 11 wpm. Bill's improvement in fluency may be partly attributable to the introduction of a blue reading ruler.
- His comprehension went up by a huge 47% leap.
- The added confidence boost of regular paired reading had an undoubted affect on all aspects of reading. From the video evidence I observed both Bill and his tutor reading with good tone and expression.
- He was reading texts well above his Entry 1 assessed level. Immediate feedback on tricky words, and separate work on vocabulary development was given so as not to impede fluency.
- Previously Bill had relied, often unsuccessfully on context cuing. Having a better strategy of looking for patterns in words is likely to be more effective. Having an increased sight vocabulary eases the burden on fluency.
- His tutor, in her role as my collaborator researcher, observed that Bill was much more at ease in reading for summative assessment, even joking about the character portrayed. This had a big impact on his raised comprehension score.
- Bill rated all but two of the approaches used in the intervention as excellent. Most notably he commented that the best thing was having individualised tuition, as opposed to working in a group.

- He said that he now noticed and was able to read adverts on the side of vans and had the confidence to pick up a local newspaper.

Having described the impact of assessment and learning interventions for individual learners in this study, the next chapter takes different combinations of learners and interventions in a form of finer grain analysis and pattern matching to look for trends.

Chapter 8 : Further qualitative analysis: finding patterns

Having looked at the quantitative data portraying trends across the group of learners as a whole and qualitative data on individual differences in the form of rich profile analysis, I turn my attention to the trends that can be observed between smaller subgroups of learners and intervention types. The sample size is too small to justify statistical examination in the form of analysis of variance (ANOVA), as I had originally hoped. However, it is still possible to be relatively systematic in trying to identify, describe and explain patterns in the qualitative data.

I use the data from my dependent variables as differential outcome measures, but also observed changes in reading behaviour and what learners and their tutors said about changes in the course of the research. In particular, it is important to capture potential improvements which learners can transfer out of the learning environment to their life in general.

I have chosen to concentrate on particular sub-groupings that are likely to produce revealing evidence for policy and practice, for instance, assessed starting levels, whether the learners had been previously assessed as being dyslexic or not, and which combination of intervention strategies they followed. I also consider if there is an effect for being bilingual, indications of the impact of whether they worked with me or one of my collaborator researchers, and any combined effects. I do not, at this stage, consider any more global characteristics (for instance age and gender) as no revealing patterns emerged. Table 8.1 summarises the lines of enquiry.

Table 8:1 Lines of enquiry in analysis of results for different learner types and combinations of intervention

Learner type	Number	Intervention type				Outcome measures
		Word attack	Comprehension	Fluency	Vocabulary development	
Starting level: E1/2/3	6	5	1	6	5	Trends in improvement on the dependent variables
Starting level: L1/2/3	4	2	4	4	4	
Dyslexic	5	3	4	5	5	
Not dyslexic	5	4	1	5	4	What learners and tutors said
Bilingual	3	3	1	3	2	
Not bilingual	7	4	4	7	7	
Intervention by me	4	2	2	4	3	Changes in reading behaviour
Intervention by collaborator researcher	6	5	3	6	6	
Effects of different combinations of interventions						Tutor skill levels

8.1 Starting level

There appear to be no significant trends which separate out the six learners who started at the lowest level of reading attainment (Entry 1 to 3) on any of the dependent variables. Three of the six made gains in WRAT 4 word recognition above the overall group average. A different three made above average gains in reading accuracy. ML7 was the one learner who made above average gains in both. She was one of the learners who decreased her reading speed following intervention, along with two others in this Entry level subgroup. All of the learners in my study would be considered poor comprehenders, under the "simple model of reading" (Gough and Tunmer, 1986 use this term), although all but ML1 would also be considered poor at word recognition, making them "garden variety" poor readers. Three of the six Entry level learners decreased their score on comprehension following intervention (perhaps reflecting a greater emphasis on word recognition skills). Although ML3 was notable in making a 47% improvement in comprehension, it still gave him access to less than 80% of the detail in the text. He and ML2 were the only ones who improved on Cole's (2010) measure of reading efficiency (combining speed and comprehension).

Within the Entry level subgroup, three learners (ML2, ML3 and ML9) would be considered to be at the most basic level of literacy (E1). Even modest gains in reading skill are an achievement for this subgroup. While no trends within the dependent variables show up for them as a subgroup, it is perhaps notable that ML2 and ML3 ranked in the top three improvers for reading speed, comprehension and reading efficiency.

At the other end of the spectrum for starting levels ML1, the undergraduate learner who had a starting level of L3 in reading attainment, made gains in all the improvement measures. She was second in ranking for gains in WRAT4 word recognition, speed and efficiency. All her scores, even though improved, would still put her at a disadvantage compared with her peers. In particular, her comprehension remained significantly impaired at 30% following intervention.

Turning to qualitative data for the Entry level subgroup, all made progress that should stand them in good stead in their wider life experience. Only one learner (ML7) was on a college course in addition to receiving support for literacy. She went on to pass her level 2 qualification in childcare after this research concluded. She was helped to access information well beyond her level of assessed competence in reading and acknowledged a much greater interest in the way words work as a result of the intervention ("I love reading now...going over words"). Of the other five learners in this subgroup two also gained the confidence to read newspapers and magazines and four to read with children in their family, an important trans-generational effect of adult literacy tuition. Given it is relatively hard to find suitable adult reading material for learners at this assessed level, it is an important finding to mark the impact of stretching learners beyond their nominal reading capability through supportive interventions, like paired reading.

Three of the four learners in the higher level sub group were on college courses, which set an immediate context and motivation for improving reading. The one learner at this level to whom this did not apply (ML8) proved particularly difficult to stimulate. Perhaps as a

consequence, her progress was less marked, improving only on her comprehension score (though still only to 50%). ML8 was the learner least likely to practise reading at home, another important factor in success, as found by Brooks *et al.* (2007).

8.2 Dyslexic learners

Five of the sample (ML1, 4, 6, 7 and 10) had a diagnosis of dyslexia, one at primary school, two in their teenage years and two as adults. Three of these were in the top four ranks in improving on WRAT 4 word recognition. The same three (ML1, ML4 and ML7) also made improvements at or above the overall group average for reading accuracy. A much more varied pattern emerged for this subgroup in reading speed and comprehension. Only one (ML1) increased in speed. Two significantly slowed down. Only two improved their comprehension above the overall group mean. I discuss the issues relating to comprehension in more detail in Chapter 9.

Between them, the dyslexic learners experienced the full range of intervention strategies, so there is nothing specific to distinguish this subgroup from this point of view. However, learners with a diagnosis of dyslexia will have been used to interventions to explore different strategies to help them find solutions and in the best cases will have had access to assistive technology to support their studies. ML1 certainly appreciated the use of text to voice software as an aid to reading and ML6 the use of an electronic dictionary. The fact that my collaborator researchers and I are trained to work with adults with dyslexia helps with an individualised problem solving approach, though I would argue that an openness to new approaches is important for all adult learners and their tutors.

8.3 Bilingual learners

Three learners (ML2, 6 and 9) in the cohort were bilingual. In the case of ML2 and ML9 this is combined with a starting level of E1 and a history of very limited educational opportunity during their primary school years in sub-Saharan Africa. ML6 struggled to attain basic literacy in both English and Urdu. She had a recent diagnosis of dyslexia. Once more, there is little to distinguish this subgroup as a coherent set when looking at the dependent variables or qualitative data. Neither was this subgroup unique in the range of interventions they experienced (all covered fluency and vocabulary and ML2 and ML9 also worked on word attack skills). I would argue that the other contributory factors in these learners' backgrounds are more significant than bilingualism (see their profiles in Chapter 7 and Appendix 25).

8.4 Intervention types

Learners in this study were not assigned to experimental groups, nor were tutors restricted to using particular interventions. In compiling a diagnostic summary for each tutor-learner pairing following initial assessment, I recommended the use of particular guidance sheets, but also challenged tutors to use their own preferred methods in response to how they saw their learners' needs developing. For this reason, analysis by intervention type is based on overlapping subgroups of a range of sizes. This level of focus forms a core element in my evaluation of the effectiveness of support for adults' reading.

As discussed in Chapter 2, my intervention types are based on Kruidenier's (2002) and Kruidenier *et al.*'s (2010) four categories of reading instruction, alphabetics, comprehension, fluency and

vocabulary development, chosen as a starting point to investigate intervention types. Six learners worked on alphabetics (which I designated word attack skills), five on explicit comprehension strategies, nine on vocabulary and all ten on fluency.

I have least to report on **word attack skills**, for a number of reasons. Six learners worked specifically on this component, but for a small proportion of the time. I found a particular resistance from my collaborator researchers, who cited lack of confidence in methods that relied on some amount of skill and experience in the teaching of phonics, albeit it in a multisensory and informal way. This finding confirms that of Besser *et al.* (2004), who uncovered little use of phonics in adult literacy settings. Tutors in my study were more likely to use word attack strategies for lower level learners (5 out of the 6 were in the Entry level subgroup).

The guidance sheets I devised for this component were deliberately designed to favour small scale and more immediate interventions. Rime prompting (A2) is simply a way of highlighting the shape and sound of words as a reader struggles to read text, adding value to the process of reading aloud to the teacher. Onset rime training (A3) looks in more detail at how words are made up, but still in the context of vocabulary that comes out of a specific reading, rather than systematically with regard to units of sound, in the way a phonics programme might. I worked hard with ML2, in particular, to explore these two strategies. She was the one learner who improved on all of the measures of reading skill, albeit by a small amount in such a short length of time, but it is not safe to attribute this solely to the work on word attack skills. ML2 also gained considerable confidence in reading from fluency strategies, like paired reading. A collaborator

researcher who used rime prompting with ML6 noted some impact on pronunciation. Linking reading with the commonly used Look, Cover, Write, Check method for spelling (A1) was not generally successful and in one case caused confusion. This is partly an effect of the way the approach was used and partly a lack of clarity in the guidance sheet, which will need to be adjusted for future use. A number of tutors used different word attack strategies, for instance work on distinguishing vowels, prefix and suffix structure linked to meaning.

The evaluative ratings for A1 were low (either 3 or 4 on the scale), whereas A2 and A3 attracted grades 1 or 2, as did tutors' own strategies.

Five learners worked explicitly on strategies to improve their **comprehension**. They were with one exception those learners operating at higher levels (Level 1 and above in core curriculum terms, Basic Skills Agency, 2001), for whom deeper understanding and recall of course related texts was a necessity. The remainder did not ignore meaning in what they read, but the emphasis was on informal discussion of content rather than a specific teaching strategy. I also believe that where a reader is exclusively reading fiction for pleasure, then overt comprehension exercises often get in the way of enjoyment; adult literacy teachers should be discouraged from automatically setting questions after any piece of reading and be shown how to use more creative methods to track progress, such as checking on inferences made, reflection on mental images formed and simply observing body language to show burgeoning understanding. Cain (2010) gives some useful guidance on this, albeit for children, and McShane (2005) devotes a whole chapter to

comprehension skill development for adults. This could also be developed in future research.

In my study, the measure of improvement in comprehension scores shows wide variance, with three learners actually decreasing their score and only one raising his attainment past 50% success. ML3 raised his score by 47 percentage points, despite no explicit work on comprehension skills. Even taking into consideration the limitations of the assessment process, this increase is notable. As discussed in his profile, this learner really benefitted from the individualised support he received and the confidence boost of paired reading, leading to an ability to focus in a more relaxed way on meaning in a text. For the remaining learners, comprehension is clearly an obstacle still to be overcome.

Tutors and learners rated C1 as a good strategy. One pairing rated C1 as excellent, another as satisfactory, though on the basis of just one or two sessions of its use. Tutors' own strategies for comprehension were generally seen as good. Learner ML1 was the most glowing in her praise of comprehension strategies. She said that she now uses the approach given in C1 (SQ3R) when reading course work. She appreciated being more strategic in her reading (C2), reflecting on "what I need to get out of what I read and then reviewing what I have read at the end." Her tutor agreed that ML1's reading is now more focused. She also made the very relevant point that ML1 would have shown an even bigger improvement in comprehension skills at summative assessment if the protocol had prompted her to use the strategies she had learned. The other tutor-learner pairings made less explicit comment about comprehension in

the evaluation, concentrating more on the benefits of vocabulary development and fluency aids.

Nine of the 10 learners in the main study worked explicitly on improving **fluency** either through different aids to tracking (F1) or through exploring paired reading (F2). The tenth learner addressed fluency tangentially using a voice-mediated software package.

Issues relating to reading speed are complex (this will be discussed more fully in Chapter 9). Increasing reading speed is revealed in this study not to be a simple goal for all readers to aspire to; half speeded up and half slowed down their reading. Kruidenier (2002) and Kruidenier *et al.* (2010) included accuracy as well as speed as important to fluency. Though not statistically significant as a group effect, the individual improvement in reading accuracy of most learners in my study is notable, giving evidence of the usefulness of this aspect of fluency in judging the impact of reading interventions.

Paired reading in particular had a marked impact on the five readers who took to it with enthusiasm, but its effect was not simplistically just on fluency. Evaluative ratings for paired reading covered all 4 grades. Learners who rated it as poor found it distracting. Tutors giving it a low rating were those who also found it difficult to apply, discovering it was difficult to match the speed and volume of their voice to that of their learner. Pairs who rated it low were also inclined to give up the strategy after just one session. The five pairs who persisted with paired reading (often for 5 or 6 sessions) were complimentary about the added confidence it facilitated and the access to more complex texts. ML2 said paired reading “helps me understand what I have read.” ML5 said he now knew how to “read

with expression.” ML9 enjoyed paired reading in the support sessions, but even more so reading along to CD recordings of the books she was reading, which she could do at home both alone and with her young daughter. ML10 found paired reading distracting, but really liked exemplar reading, when her tutor read to her first.

The intervention sessions were a good opportunity for learners to explore fluency aids (F1) in more detail. These were sometimes strategies already in use before the research began (for instance a preference for text on coloured paper). Others were new introductions, like a plastic overlay with a ruled line embedded to improve both colour contrast and tracking. ML6’s tutor looked closely at why her reading was so stilted and managed to wean her off pointing with her finger at each separate word, to good effect.

ML3 loved reading along to music lyrics, a strategy I piloted in my initial study. I discovered one learner had a particular passion for Country and Western music and could sing several songs from memory. I supplied a CD of music and transcribed song lyrics. Together we sang along to the music, following the printed words. I later developed activities to try out her word recognition without the aid of music or context. The learner showed a notable recall of words. She said reading while listening to music was “relaxing,” a factor in her growing confidence with literacy. I passed these novel ideas on to ML3’s tutor. She also introduced the approach as a theme in her adult literacy group for one term. They took it on as a project to introduce different styles of music but also noted that reading is easier with the combination of high interest material, multisensory input and the kinaesthetic feedback that singing provides.

In this study, nine learners worked on overt **vocabulary development**. It was the most highly rated approach, gaining an average score for effectiveness from learners of 1.21 on the 1 to 4 scale (See Appendix 8). Tutors also liked the structure it gave to work on words. They either used the simple vocabulary frame (V1) to record words taken from a learner's current reading and make them more memorable, or linked words with meaning by systematic practice putting them into sentences (V2). I also include in this approach my work with ML9 on Dolch words.

Tutors devoted the highest proportion of time to vocabulary development, in terms of the number of sessions and the time within the session. They used their imagination linking words with pictures and eliciting ideas from the learners themselves to make words memorable. Some learners developed strong preferences. ML1 said breaking words into chunks did not help and her tutor agreed. She preferred to concentrate on meaning and usage. ML3, ML5 and ML7 found pictures really enhanced their memory for words. ML7 linked images and humour, gaining a curiosity for words she had never had before. ML9 liked the joint approach of colour-coding awkward parts of words but also putting them into sentences.

Tutors noticed the impact of separate vocabulary development on fluency. Knowing the words in advance meant learners did not stop to sound them out. ML1's tutor felt it needed more than 6 sessions to see a big difference in vocabulary. I think she was referring to the difficulty in quantifying exactly how many new words a learner can acquire in a short time. I will return to this point in Chapter 9. ML3's tutor was concerned about the interference that working on vocabulary for reading might have on spelling. She had been linking

differently spelled words to the target word as an aid to pronunciation and inadvertently set up this conflict. Vocabulary development clearly interlinks with word attack skills. ML3's tutor also noticed that he found it easier to assimilate a new word if he could get the starting sound as a hook to memory.

8.5 The effects of different combinations of intervention

This reminder that intervention strategies will inevitably overlap prompts the consideration of possible effects of different combinations of strategies. Table 8.2 summarises some learner characteristics along with the type and number of interventions they experienced (see tables 6.4 – 6.7 in Chapter 6 for more detail).

Table 8.2 Learner characteristics and interventions used

Learner	Starting level	Male/ Female	Bilingual	Dyslexic	Intervention used*				Number of interventions
					A	C	F	V	
ML1	L1-4	F	✓	✓	X	✓	✓	✓	3
ML2	Entry	F	✓	X	✓	X	✓	X	2
ML3	Entry	M	X	X	✓	X	✓	✓	3
ML4	L1-4	M	X	✓	✓	✓	✓	✓	4
ML5	Entry	M	X	X	✓	X	✓	✓	3
ML6	L1-4	F	✓	✓	✓	✓	✓	✓	4
ML7	Entry	F	✓	✓	X	✓	✓	✓	3
ML8	L1-4	F	X	X	X	✓	✓	✓	3
ML9	Entry	F	✓	X	✓	X	✓	✓	3
ML10	Entry	F	X	✓	✓	X	✓	✓	3

* A = alphabets (word attack), C = comprehension, F = fluency, V = vocabulary

Two learners experienced all four categories of intervention, though it should be noted that some were interventions not framed by one of my guidance sheets, and as such were more varied in nature. A further 7 learners worked on 3 categories in combination. Learner ML2 worked most intensively on just two types of strategy, namely word attack and fluency. For four learners the use of an particular intervention was represented by only one session (indicated by the shaded boxes in Table 8.2), either because it was a strategy the researcher thought was not working (in the case of paired reading) or because other priorities emerged.

The different combinations of interventions are indicated in Table 8.3. In order to prompt more rigorous analysis, the third column explicitly identifies the main focus for interventions, by excluding those interventions used on just one occasion.

Table 8:3 Combinations of interventions

Interventions	Learners (all sessions)	Learners and their main focus*
A	none	none
C	none	none
F	none	none
V	none	ML5 and 10
A+C	none	none
A+F	ML2	ML2
A+V	none	none
C+F	none	ML1
C+V	none	none
F+V	none	none
A+C+F	none	none
A+C+V	none	none
A+F+V	ML3, 5, 9, 10	ML3, 4, 9
C+F+V	ML1, 7, 8	ML7, 8
All 4	ML4 and 6	ML 6

* excluding those who worked for just one session on an intervention type.

Learners ML5 and ML10 worked predominantly on strategies connected with vocabulary development. On average, their progress was less marked on each of the dependent variables than the group as a whole. However, in my view, it would be unsafe to draw conclusions about this approach, owing to the extraneous factors involved in ML10's case (discussed in her profile in Appendix 25).

The two-way combinations of strategies involving alphabetics (word attack skills) and comprehension and fluency are each represented by just one learner. Similarly, only learner ML6 experienced an

approach that fully integrated all four intervention types, with at least two sessions including each. Findings are, therefore, subject to individual differences and discussed in their profiles.

Two subgroups worked predominantly on three way combinations of intervention strategies.

The group combining comprehension, fluency and vocabulary development is represented by ML7 and ML8, both female, one assessed as operating at Entry level for reading and identified as being dyslexic, one assessed as reading at level two and not dyslexic. Both have black African Caribbean heritage. The average improvement in comprehension for this subgroup was only slightly higher than for the group as whole and predominantly reflects the 18% improvement made by ML7 (ML8's score decreased). Both learners decreased their reading speed, perhaps a side effect of the greater emphasis on words and their meanings involved in vocabulary development (see Chapter 9 for a discussion of reading speed). Other than this, the subgroup's results post-intervention are very similar to the whole group means.

The group combining word attack, fluency and vocabulary development in their interventions consists of ML3, ML4 and ML9 (two male, one dyslexic and two reading at the lowest level (Entry 1). On average, this subgroup performed above the whole group mean on all five of the dependent variables. The most notable differences are for reading accuracy and comprehension. Scores relating to comprehension are skewed by the 47% increase made by ML3 (ML4 had a more modest increase and ML9 decreased her score for comprehension), which is ironic, considering that none of these three

learners had explicit instruction in comprehension. The findings for reading accuracy are more encouraging. All three learners in this subgroup improved their word accuracy above the whole group norm, and are the top three scorers on this measure (see Table 6.9). In this respect they outperformed learners that experienced these three intervention types in different combinations. This effect gives pointers to future research and practice on optimal combinations of reading instruction strategies. However small sample size in the current study requires caution in interpretation.

8.6 Tutors' skills

In terms of the dependent variables, the four learners I worked with showed comparable changes to the overall group averages, with the exception of comprehension. Three of my four learners were in the Entry level category and two of these decreased their comprehension scores. However, the learners I supported included those ranked 2nd and 3rd in their improvements on this measure.

There were individual differences among my collaborator researchers in their approach to the research task and in their implementation of the intervention strategies.

T1 worked with ML1, the undergraduate student. She needed, quite rightly to keep the interventions firmly in the context of her learner's busy course schedule. Her main focus was on comprehension with a move to vocabulary development relatively late in the intervention, then wishing she had had more time for this. T1 provided particularly rich evaluative comments on the impact of her support. I consider her a very thoughtful and reflective tutor. She went on to complete

her own research for an MA dissertation, based on ideas stimulated by this research.

T2 worked with ML3, the learner who made the most marked improvements and ML5, taking each of them in her own time out of her adult literacy group. Both learners were in the Entry level category. T2 has a real talent for working with the most vulnerable learners, supporting their many additional needs. She was probably the most open of my collaborators to using new techniques, harnessing music to literacy development with enthusiasm and exploring the nuances of fluency and vocabulary development particularly well. Like many adult literacy tutors she lacked confidence in applying phonics to her teaching repertoire.

T3 worked with ML4. She was relatively cautious in trying out new strategies, preferring her own routines with her learner. She had a tendency not to stick closely to the guidance sheets but use her own version of strategies, which diluted the impact of the research somewhat, but still epitomised a problem-solving approach. She was particularly responsive to ML4's needs, taking trouble to find and adapt high interest texts and quickly moving on to other techniques when paired reading did not work. He made modest improvements on the dependent variables and the biggest gain in WRAT 4 word recognition.

T4 is highly experienced in supporting adults with dyslexia. She has an approach that makes the most of any learner's strengths and allows them scope for development of further compensatory strategies. Her work with ML6 was imaginative and particularly patient, picking up that ML6 needed a lot of repetition. T4 sought

confirmation from me about support strategies that were unfamiliar and responded very reflectively to the observation I made of one session. She shared some very helpful insights on assessment methodology.

T5 had a particular struggle to maintain her research schedule, owing to personal difficulties in ML10's life which resulted in a long delay before the summative assessment could be completed. She used probably the most restricted palate of intervention strategies and her sessions were the least varied, comprising vocabulary development followed by a long stretch of oral reading, with only one text type (fiction). Her approach to enhancing fluency was through providing a role model for reading aloud, as paired reading did not suit ML10.

I am satisfied that each of my collaborator researchers had a positive effect on the reading skills and confidence of the learners they worked with. They also benefited professionally by the new support strategies added to their repertoire. The skill level of adult literacy practitioners is an important factor in the success of any interventions.

The previous three chapters constitute the data analysis for my research, Chapter 6 concentrating on quantitative data analysis, Chapter 7 looking at individual differences in the form of extended learner profiles, and Chapter 8 extending the qualitative analysis to the effects of different combinations of learner subgroups and interventions. I turn next to the discussion arising from that analysis.

Chapter 9 : Discussion

9.1 Introduction

My case study approach has built up a range of data, which so far I have analysed in quantitative terms through statistical analysis and in qualitative terms through narration, pattern finding and learner profiles. I now aim to discuss the implications of my findings, as a form of “explanation building” (Yin 2009, p. 141-144). I take the evidence from different sources, revisit some of the theoretical perspectives outlined in my literature review and build up new and more precise explanations. Because an intervention with each of the 10 learners is viewed in some respects as a different case study, I have the potential for a sequential iterative explanation building process that Yin finds powerful. I take note of his warning, however, about drifting too far away from the central purpose of the research, and so this chapter concludes with a return to my research questions and a reconsideration of conclusions in a more holistic way.

This chapter starts with a discussion of the implications of the detailed learner profiles (from Chapter 7 and Appendix 25) and then combines discussion of quantitative and qualitative data from Chapter 6 and 8.

9.2 Discussion stemming from learner profiles

The purpose of including learner profiles in this thesis is twofold:

- To illustrate their usefulness as a diagnostic and evaluative tool for practitioners
- To articulate themes for development in both research and practice.

This section of the discussion concentrates on the latter. It highlights some important themes coming from my own work with four learners in particular and more generally from all 10 learners in the main study. I have grouped these themes into 4 broad topics: **the impact of the social context of learners, the impact of cognitive factors, which strategies worked and a pedagogy for learning support.** At this stage, the themes are very much led by the findings from each learner. Although not exhaustive, this approach has the merit of emphasising the role of the learners at the heart of my research and is in line with Herrington and Kendall's (2005) ideal of practitioner research.

- **The impact of the social context of learners**

The 10 learners came from very diverse backgrounds and educational experiences that influenced their literacy attainment and approach to reading. At the start of the study, I had not anticipated working specifically with bilingual learners, but this proved an important factor. Gregory (1996) distinguishes social context and the "reading practices" (p.17) a young bilingual reader has encountered from any cognitive skills that they subsequently manifest, though she also sees an inextricable link between the two. She highlights the need for fair assessment that takes account of cultural differences in any reading history. "[Children's] bilingualism and their cognitive, literacy and cultural experiences help them to construct themselves as readers." (Datta 2000, p. 58).

Undoubtedly many of Sarah's (ML2) difficulties stem from the poverty of her early education. In 2000 14% of females aged 15 to 24 in her home country of Zambia were illiterate, compared with 9% of males (Sender *et al.* 2005). The split between urban and rural populations

is even more marked. Growing up in a village as Sarah did, she would have experienced perhaps only 50% of adult females providing a role model of literacy (Open Society Initiative for Southern Africa (OSISA) 2008). English is the official language of Zambia. It is notable that the one literate role model, her stepmother, attempted to teach Sarah to read English rather than her mother tongue. Even today (Le Mottee 2009), the official policy of providing education via the medium of one of the seven main Zambian languages is rarely implemented and English still prevails. Geva (2008) studied children in Canada who learned to read in a bilingual setting. Although it is useful to know the characteristics of the two languages concerned so as to be aware of sources of confusion (for instance between Arabic and English versus French and English), she found that skills could often be transferable between languages, and that, provided children attended school from the outset, bilingual learners were not disadvantaged. An underlying learning disability was a more effective predictor of reading difficulty than bilingualism, taking into consideration the stage the learner has reached in learning the new language. It is beyond the scope of this study to investigate Sarah's mother tongue; it is, for instance, possible that the particular language Sarah uses is predominantly a non-written one. The fact that what little education she has had has been through the medium of English would seem to indicate that any language interference is likely to be at the surface level of pronunciation (as with Sarah's vowel sounds). However, we should look positively on Sarah's heritage as a feature of her learning capability and bilingualism as an "affective variable" in her reading and an influence on her reading style. Although Sarah did not seek help with literacy at an earlier stage of her adult life, the challenge of helping her children is likely to be a strong source of motivation now

and also an indirect source of knowledge and awareness of language structures if she undertakes family literacy activity.

Helen (ML9) also experienced limited educational opportunity in sub-Saharan Africa. She too shows strong motivation to improve her reading to help her daughter. Being born in 1970, Helen's education coincided with the introduction of universal primary education to Nigeria in 1976. However, the explosion in school enrolments was "plagued by several problems, among which were inadequate staffing, poor supervision and inadequate school infrastructural facilities," (Ikoya and Onoyase, 2008, p.15), which persisted into the 1990s. Helen is eloquent about the deficiencies in her schooling and anxious to ensure her daughter is not similarly disadvantaged.

Eiliya (ML6) benefited from a family that paid for extra tuition in English and Urdu in Pakistan. Yet she still struggles with spoken pronunciation and literacy attainment. Her difficulties are compounded by dyslexia and a very poor working memory.

The implications of Jill (ML7)'s heritage and language style raise important policy issues for discussion. Born in 1962 in Jamaica, Jill would have been a beneficiary of the early days of free education, as prior to the 1960s education was exclusive to those who could afford it (Knight 2000). Written literacy conferred status on earlier generations within an essentially oral culture. Jill said that her grandmother could not read and her mother only a little. Jill's own view of her education was not positive. She always struggled, was intimidated by her teachers and was taught word attack skills in the characteristic style of the time, using letter names not sounds. It is

likely that this approach, which is no longer favoured, disadvantaged learners like Jill.

Added to this is the political issue of the status of Jill's Caribbean English. Hughes and Schwab (2010) provide an extremely useful account of Caribbean Creole and its linguistic features (pp. 104-109) to take into account when supporting reading. Nero (2006) laments the prejudice inherent in American educators working with children from the Caribbean, who are often put in classes for speakers of English as a second language (ESL). These attitudes are based, according to Nero, on a false view of English as a monolithic language, whose purest form is reserved for people of European heritage. He criticises the "hierarchy of acceptance of English [which] is tied to race and ethnicity" (p.504). He finds that even teachers who are tolerant of the diversity of pronunciation and lexicon are less so of grammar. Caribbean English with its different grammar is often thought of as substandard. It seems we are faced with a dilemma. Caribbean English could be thought of positively as a different language (somewhere on the continuum between English and Creole), and then we could accept its different language features. The downside of this is potential discrimination. Alternatively Caribbean English could be viewed, as I see it, as part of the rich pattern inherent in English usage of various different kinds. I hope Nero would approve of the conversations Jill and I had about genres and audiences for speaking and writing, as part of an "honest dialogue about language", provided the learner also appreciates the power relationship conferred by standard English as opposed to its inherent superiority. More controversial is his view that "alternative forms of assessment" should be used for readers of Caribbean English. According to this stance, I should have discounted all the

miscues that Jill made that constituted vernacular alternatives. In the end, I was led by Jill herself, who said she wanted to read the English as it was written. We should, however, be mindful of the sensitivities this approach raises.

- **The impact of cognitive factors**

Looking at individual differences in cognitive style and potential processing difficulties helps in tailoring support to a learner's needs (Klein 2003).

When evaluating the impact of support on Helen's progress (ML9), the choices between visual and auditory strategies come clearly to the fore. Helen showed distinct signs of a difficulty in processing sounds during initial assessment, from her difficulty with nonwords, her reliance on context and a very limited range of vocabulary during passage reading and her struggle to assimilate vowel sounds during the intervention phase. It is not clear how far her educational background in Nigeria contributed to this, nor is there a diagnosis of dyslexia to cast light on this. By contrast, Helen showed some promise in retaining and developing vocabulary, when word patterns were pointed out visually. This occurred particularly when reading of a passage became familiar through practice and when following text while listening to a taped book brought the two modalities closer together. But vocabulary development is a laborious process. If it takes a minimum of six months' one-to-one tuition to develop confidence in reading through a phonics-focused programme (Coleman and Ainley, 2010) working on word families, it will certainly take much longer to develop a useful sight vocabulary working word by word. This inefficiency is the big factor which pro-phonics advocates cite against whole word or real-reading approaches

(Miskin, 2007, Dehaene, 2009). Yet more measured commentators see a need for a balanced approach combining a range of strategies (Burton *et al.* 2008). In an influential review article, Share (1995) summarises the theories of reading acquisition, and though favouring phonological skills (and in particular synthetic phonics for reading and analytic phonics for spelling) still argues wisely for a clear link in the pedagogy between phonological and orthographic approaches. An analysis of a learner's visual and auditory strengths makes sense when embarking on a multisensory programme of support, whether it favours phonics or whole word vocabulary development.

Four of the 10 learners used tracking aids to assist with fluency (F1) which might be linked to possible visual stress. Three of these (ML3, ML5 and ML7) were already used to coloured overlays and had a preference for a particular colour of paper. Their tutors experimented with changing this to a small acetate strip with a ruler imprinted, with good effect for two of them. By contrast, one learner (ML6) found this reading ruler inhibited her progress and also abandoned the use of a finger for tracking, with the result that her reading became less stilted. The effect of colour related to the amelioration of visual stress is not well explained. Irlen and Lass (1989) simply describe the syndrome and more recently optometrists (Scheiman 2004, Taub *et al.* 2009) question the aetiology of eye problems seemingly helped by coloured lenses. Only one of the learners (ML1) had an assessment by a behavioural optometrist, with a programme of corrective lenses prescribed too late for the intervention phase of this study. ML1 accessed this service through the funding of the Disabled Students' Allowance (DSA) available to students enrolled in higher education. There is no similar funding in the adult and further education sector. Assessment for coloured acetates often rests on

tutors rather than on more expert interventions. Even adults on benefits cannot be guaranteed free specialist eye testing and prescriptions. Rachel (ML8) had to wait for ordinary prescription glasses until she had saved up enough cash, meaning we had to use large-print tests as a stop-gap. These are barriers to effective literacy development that undoubtedly have an impact.

- **Which strategies worked best for individuals**

From working with Sarah (ML2) I learned more about the implications of word attack skills (Kruidenier's "alphabetics"). The techniques of onset rime training and rime prompting have not, to the best of my knowledge, been previously used in an adult literacy setting, certainly in this form. Besser *et al.* 2004 suggested it would be a useful technique to investigate. Unsurprisingly, only one of my collaborator researchers volunteered to use this approach. It is important to compare rime prompting with paired reading. I used both with Sarah. Both techniques are designed to take some of the pain out of reading unfamiliar words as the reader is never left to struggle to work words out themselves. In paired reading the whole word is supplied with minimal disruption to the flow of reading. With rime prompting the word is supplied and then analysed for units of sound. Against the disruption to fluency and possible understanding of the text, with rime prompting the learner hears a model of decoding that they may try out in the future. Sarah made more phonic attempts at words in her subsequent reading.

I chose to use rime prompting (A2) alongside onset rime training (A3) with Sarah, as I felt it was important that she saw the way words split into onsets and rimes visually as well as hearing sounds at the time of reading the text. We emphasised the syllable breaks and onset-

rime splits with coloured highlighter pens. Though I have no evidence of visual or auditory processing difficulties (Sarah's problems with reading are most likely the result of minimal early education) she marginally preferred working on visual patterns to sounds. For me, the main result is that it helps working in a multi-sensory way.

I further explored this approach by working with Sarah on larger units of sound than phonemes. My approach is also more in the style of analytic phonics rather than synthetic phonics. As well as the practical issue of not having time for the complete systematic synthetic phonics approach (neither in this research model nor in most practical adult literacy contexts), I also feel that adults benefit more from working from the known to the unknown. With analytic phonics the phonemes are never pronounced in isolation. In this case, working from a whole word (supplied) to its component parts is more respectful of the context that an adult reader brings, building on the vocabulary and knowledge of words that they already know.

Besser *et al.* (2004), in their study of adult literacy classes in England, observed that word attack skills were most frequently taught when tutors heard learners read aloud. They noted (p.94) that tutors would be well advised to prompt readers to look at the middle and ends of words as well as initial sounds, as school research has shown that this is more likely to be effective. Moseley and Poole (2001), on whose research I based my rime prompting strategy, certainly found that this approach was superior to simply supplying a whole word to young beginner readers. Bruck (1992) found that, for dyslexic adults, an approach based on onset and rime is more likely to work because even when they had mastered some reading skills,

dyslexic adults struggled to perceive the smaller sound units, phonemes. Normal readers, by contrast, improve their phonemic awareness as their reading skills improve. Schwab (2010, pp 167-169) favours an approach to phonics for adult literacy based around the "teachable moment", where a learner's attention is drawn to phonic aspects of the text in a systematic way within the context of an authentic text (say poetry or song lyrics).

A learning point relating to both Rachel's (ML8) and Fiona's (ML10) progress is the importance of punctuation for fluency and comprehension in passage reading, following our work on this. We know from Ivancic (1996 p.67) that "while reading probably doesn't help students to learn to spell, it does seem to help some to punctuate." Adult writers can improve their punctuation by reading their work aloud and listening for a complex mix of sound, structure and meaning in the words. However, perhaps reading with a greater awareness of punctuation also helps fluency and comprehension. I posted an article on the subject on my website (Partridge 2010a) in February 2010 and have received confirmation from colleagues that this is a fruitful approach to use. In many adult literacy classes a mechanistic approach to teaching punctuation is taken, often involving worksheets where punctuation errors are corrected, rather than deeper conceptual understanding of the issues. By turning the topic on its head and actively seeking and using punctuation prompts in a passage for reading, the learner can gain deeper understanding in a more heuristic way of how punctuation works, but also harness this for more expressive and meaningful reading.

My work with Sarah also explored fluency, confidence and enjoyment. For a reluctant reader, the confidence boost of paired

reading was prime. The practical impact of reading more texts through this method and so imparting more knowledge to Sarah in a shorter time outweighed the use of more general word attack strategies.

Although Jill was positive about the paired reading fluency strategy (F2), I did not rate its efficacy so highly. Given that in reading her course textbook we were operating at a readability level considerably above her comfort zone, my role in the paired reading partnership was more as a translator of difficult words than a subtle support. Jill was one of the learners who slowed down her reading speed post-intervention. This appeared to indicate a greater willingness to work out problem words (following our work on vocabulary development) at the expense of a degree of fluency.

Jill also struggled with comprehension. We spent comparatively little time on this strand compared with vocabulary development, and most of the work concentrated on preparing Jill to be more receptive to textual features and the topic prior to reading (C2). We did not practise recall and comprehension skills explicitly (as a researcher I was determined not to “teach to” my summative assessment test). Jill’s dyslexia assessment also pointed to short-term working memory deficits, which I observed working with her. Given more time I would have worked more on memory strategies.

The dip in Jill’s comprehension score is not surprising, considering these other factors, and in my view is within experimental error. Although overtly at the same readability level (Klein 2003) the two passages used for initial and summative assessment were substantially different in style and content. The second passage was

set in a context unfamiliar to Jill, that of flying a cargo plane! It also had a difficult target word, 'dynamite', not likely to be in her sight vocabulary, repeated three times. While this repetition is useful in a text for developmental purposes, in an assessment task it disadvantages a reader who, like Jill, is unable to attempt it. This was both demoralising and disrupted the understanding of the passage when it came to recall and comprehension. ML6 (Eliyah) also struggled with the subject matter of the passage used for summative assessment, calling into question the validity of any differences in her scores.

- **A pedagogy for learning support**

Rachel was one of the learners most supportive but least analytic in her evaluation of the impact of the intervention sessions. I got the feeling she would have appreciated whatever we did because she enjoyed the attention that one-to-one support gave, compared with an adult literacy class of six to eight learners and more prescribed tasks. A good working relationship between two adults, one of whom happens to be the teacher, is worth its weight in gold. It needs to be evaluated, particularly in times of cost cutting and rising class sizes in an over stretched adult education sector, when there is pressure to reduce one-to-one support. One of those learners, ML3 (Bill), who evaluated one-to-one tuition as the best aspect of the intervention, has since left the provision as he no longer thinks group work helps him. ML10 (Fiona) also compared her adult literacy class less favourably compared with one to one support. A recent publication (Coleman and Ainley 2010) advocates six months of intensive personal tuition by a learning mentor, friend or volunteer to make a breakthrough in basic reading skills through an approach based

jointly on phonics and reading for meaning, which is a big commitment.

9.3 A commentary on the findings from Chapters 6 and 8

Chapter 6 reported the quantitative data for whole group effects on each of the dependent variables. In essence the findings were too variable to establish overall patterns for these factors. Differences in group averages before and after intervention came close, in some cases, to statistical significance ($p = 0.07$, $p = 0.18$, $p = 0.19$), though small numbers ($n=10$) limit the generalisability of the results. However, that very variability casts light on the constructs of accuracy, speed and comprehension, which will be discussed in section 9.4.

Even the subgroup analysis reported in Chapter 8 produced wide variability. In terms of starting level, lower level learners have a greater distance to travel to make an improvement that will have a functional impact, but show immense gratitude for even making small steps. Higher level learners on college course have a more overt context for improving their reading but may have other pressures on their time. The subgroup of dyslexic learners and of those who are bilingual show no measurable distinguishing features within my research. The differences in performance of learners experiencing different interventions singly and in combination are discussed in the next section, when seeking to answer research question 3.

9.4 Answering the research questions

Q1: What counts as an improvement in reading skills for adults (given the range of aspects and components involved in effective reading)?

It is, perhaps, surprising that this question cannot be answered from a review of the current literature. In Chapter 3, I discussed some of the most common ways of judging individual progress in aspects of adult literacy. Many practitioners are constrained by funding methodology, which favours accredited learning (at least 90% of provision should lead to a recognised qualification (Skills Funding Agency 2009)) to mark a supposed transition between levels of the adult core curriculum. When delivering programmes of non-accredited learning, providers are still expected to supply evidence that each learner makes progress to a higher level. The commonest forms of accreditation for adult literacy rest on multiple choice tests, or ask for focused responses to a written text for reading. This is not radically altered in the new qualifications to support “functional skills” which are currently being introduced (for example, Edexcel 2010). There are implicit assumptions of a degree of fluency (the time limit for the test overall) and knowledge of vocabulary to aid understanding, but mainly the scores rest on comprehension skills. The adult core curriculum (LSIS 2009) specifies types of word attack skills applicable to each level, e.g. “recognise high frequency words and words with common spelling patterns” for Entry 2; “read words with common prefixes and suffixes” for Entry 3, but does not elaborate on how to measure attainment of these goals.

This research seeks to advise the practitioner on how to measure improvement on an individual basis and in comparison to others in an adult literacy context.

One obvious and commonly used starting point is a standardised test of word recognition, since any changes in performance can be compared with established norms for learners in the same age bands. Adult literacy in the UK has rightly sought to avoid the anomaly of improvements being judged against educational grade designators or reading ages with inappropriate ceiling levels for adults. Using the WRAT 4 word recognition subtest (Wilkinson and Robertson 2006), none of the 10 learners in my study made an improvement in score that could be considered significant above and beyond test error. A typical confidence interval spans 12 or 13 standard points (for 90% confidence). Taking the example of an adult aged 35 years using the green form subtest (page 215 of the test manual), this change would represent an additional 10 or 11 words read for someone falling below the mean score of 100, but at most 5 extra words for someone reading above the mean. For an adult of this age it takes a 9 word improvement simply to get out of the lowest band (the 0.1st percentile), assuming they can read the alphabet (which accounts for the first 15 points). It would take a 37 word improvement to get a learner from this baseline to a score at the lowest point of the “average” band (standard score 85, which represents one standard deviation below the mean and is the point used as the criterion in the UK to decide whether exam concessions are applicable). Researchers also need to beware of divergences in scores on the two versions of the WRAT4 word lists. ML7 (see Chapter 7 for her profile) gained 3 standard points on WRAT4 in the post-intervention test, though this represented exactly the same number of words successfully recognised.

Given the nature of the word selection in the WRAT 4 test (a mixture of phonically regular and irregular words), short of “teaching to the

test". we are no nearer being able to quantify in reality how many extra words of vocabulary a reader has to recognise in order to show suitable progress, let alone being able to describe what extra word attack skills they need.

The issue around the validity and reliability of non-standardised measures, which I also used, will be discussed under question 2. Before then, I will take one further example from my test results to elucidate an anomaly in what counts as an improvement in reading.

In including a measure of reading speed, I made an unspoken assumption that increasing speed might be good, but did not set out with that specific intent. Cooper (2009) and Cole (2010) promote the "SuperReading™" programme as an aid to boosting reading speed, linked with good recall and comprehension. They claim some remarkable success with undergraduates and university staff, some dyslexic and some not. Despite various starting points in reading competency, learners in their study improved their reading speed, reading comprehension and so their reading effectiveness score (where effectiveness is a coefficient of speed and comprehension). In my study, by contrast, only 3 of the learners increased their reading speed and half slowed down. On one level, this tells me that the strategies we used to improve fluency were not as effective as those advocated by Cole. However, there are other factors at work, not least the fact that learners in my study represented a wider range of starting skill levels. There are also individual differences in ways of tracking print. In a study to examine eye movements when reading, Hyönä and Nurminen (2006) uncovered different types of tracking strategies. These involved individual differences in reading speed, but also a group of competent readers who purposively look

back to pertinent sections of the text when reading, hence slowing down their reading speed. This last group only represented 15% of the sample, but they wrote the most effective summaries of what the text was about, an index of recall and comprehension. There is, in this case, a clear trade-off between speed and comprehension. It is interesting to speculate whether some of my learners, encouraged to focus more closely on individual words (for word attack and vocabulary development) as a way of getting more from their reading, slowed down as a consequence; a different type of trade-off. Our interventions resulted in a non-significant group effect for an increase in accuracy ($p = 0.18$). Three learners (ML5, ML 7 and ML9) who increased their accuracy also decreased in speed.

I also have to consider whether the context of my learners, in a mainly adult literacy setting, was significantly different from that of Cole (2010) and Cooper (2009). It is difficult to know how learners at Entry level in their reading skills would have coped with the SuperReading™ course, with its deliberate intent to speed up existing reading skills. I was looking for a more balanced range of improvements in skills. I am wary of methods that concentrate on one method over another, with, in some respects, a self-fulfilling goal in mind.

The disadvantage of my mixed method approach is that it comes with anomalies from possible extraneous variables. One of the most obvious of these is the duration of the intervention period. It is scarcely likely that we would make a measurable difference in all of the factors the study sought to improve with just six hours of support. I will discuss in Chapter 10 whether it will be worth repeating this study with larger learner numbers and more time. Only in that way

might we be able to say what is a reasonable time frame for measuring progress and more definitively what counts as progress within that time.

In conclusion, I find inconsistency and a lack of clarity in current practice as to what constitutes an improvement in reading skills. There are discrepancies in what researchers, policy makers, test designers and practitioners might count as progress. In answering this research question I have uncovered some underlying assumptions, about testing methodology, about reading speed and likely time frames, but there is still work to do in articulating them more clearly.

Q2: What are the practical and ethical issues in measuring improvements in reading skills?

The choice and implementation of assessment also has an impact on how easy it is to measure progress. My study set out to explore the practical and ethical issues involved in assessment. The form of the research proved a good catalyst for evaluating particular assessment tools in detail and also to examine the choices to include or not include particular tests.

One assessment that I chose not to include in my study in order to keep the process relatively streamlined, but might consider in any future research is the Test of Word Reading Efficiency or TOWRE (Torgesen *et al.* 1999). It differs from the set of three single word reading tests I used, in that it is timed and so captures a measure of processing speed that might be of significance when seeking to characterise a reader's difficulties. However it has a test ceiling of 25 years, limiting its robustness as a standardised test. As yet, no single battery of tests covers all the characteristics to develop a fully

individualised learner profile. Shapiro *et al.* (2009) say that more “consistent and accurate assessment is critical for both research and practice” (p. 18), including a plea for more diagnostic assessment to aid “teaching decisions.” In particular, they favour a combination of WRAT 4 and TOWRE to compare performance with and without time constraints. While I approve of this use of assessments in combination, I also advocate the use of a range of more qualitative assessments, to give a balanced profile that goes beyond just assessment scores.

Such qualitative assessment tools are not, however, without their problems. For instance, in using miscue analysis (Goodman 1967), it is important to be overt about the levels of uncertainty one needs to accept. The benefit for me of miscue analysis is that it can provide detailed insights into the proactive strategies favoured by a reader, and indirectly, thereby, the pattern of strengths and difficulties they present. An issue can be the reliability of judgements made by the assessor when using this tool. I overcame inter-rater unreliability by performing the miscue analysis myself on all the learners in this study, based on marked up text provided by my collaborators, but paradoxically made this aspect of my research less easy to replicate (my judgements are unique to me). For a more detailed discussion of miscue analysis and, in particular, a set of visual flow charts I devised identifying the diagnostic choices that need to be made at each stage of the analysis, see Appendix 23 and Partridge (2010b).

Another issue that emerged through using miscue analysis was that of the readability of the texts I was using. I had a practical problem, in that I needed two texts of an equivalent level of readability for my pre-intervention and post-intervention tests. My source (Klein 2003)

did not have enough. I developed texts of my own to fill this gap and this led me to explore these and the original texts using a standard “simplified measure of gobbledygook (SMOG)” readability index, available in electronic form (Samson 2010) on the NIACE website. The index is based on the number of sentences and the proportion of multisyllabic words in a text. Using this measure, I was able to engineer the approximate equivalence of my new texts to their counterparts. However, I uncovered some anomalies in the readability of some of the originals. In particular a passage deemed to be pitched at “post GCSE level” (Klein 2003) had a readability index almost identical to a “GCE advanced level” text and both were close to the ceiling of the SMOG index at 19.3 and 19.5 respectively. Furthermore a text introduced to be at undergraduate level had a lower readability index (17.4) than the advanced level text. The three relevant texts are reproduced in Appendix 24. There is an urgent need to look at the readability of texts used for assessment. The Adult Reading Test (Brooks *et al.* 2004), widely used in the FE sector in the UK, has marked divergences in the readability and coherence of texts, which can skew results.

Marie Clay, evaluating the survey work that led to her seminal “Reading Recovery” programme (Clay 1985), emphasised the importance of choosing a text of the right level of difficulty. She favoured texts that allow 90-94% accuracy, which she designated as “instructional” and insisted that it was critical to check this for each reader and each text. Gickling and Armstrong (1978), exploring the link between reading accuracy and comprehension, defined “frustration level” as representing less than 93% accuracy, 93-97% as “instructional” and 98% to 100% as “independent reading.” Following up this research more recently, Cramer and Rosenfield

(2008) were interested in the accuracy of assessment and the impact this has on teachers' ability to select the right strategies to support a learner's needs. Their subjects (children at the American fourth grade, past the initial stages of reading acquisition, and so more relevant as a comparator for adult literacy) read different passages designed to elicit Gickling and Armstrong's three levels of challenge. The researchers found a strong correlation between reading speed and word accuracy where passages were at a frustration or instructional level, but not for reading at an independent level of challenge. They expected to also find a correlation between reading speed and comprehension, but this was not substantiated. Cramer and Rosenfeld questioned the validity of their own way of measuring comprehension (a topic I will pick up in answering research question 3). This research has implications for my study and for future research. Three out of ten of my learners demonstrated improved accuracy at the instructional or independent level following intervention, yet there was a mixed picture for changes in reading speed and comprehension. As with any correlation (or lack of correlation), it is not clear whether the relationships Cramer and Rosenfield portray are causal or simply indicative of the co-existence of two factors (speed and accuracy; speed and comprehension). I am not convinced at a pedagogical level that it is always important to boost reading speed to increase accuracy. The link between reading speed and comprehension is even more ambiguous. In assessment terms it is important to be aware of these complex relationships in choosing a valid tool to measure progress.

Boyle and Fisher (2007)'s book on educational testing provides a useful source of advice for assessors wanting to select tests with due regard to fairness, integrity, validity and reliability. A prime concern

in my research was to ascertain what constitutes a workable battery of assessments. It needs to be equitable for a range of different learners, taking due account of the impact of test stress. Taken in combination, the assessments should have a high degree of construct validity and a reasonable degree of predictive validity (predicting which approaches to reading support are most likely to be successful). Often in the adult sector there is pressure to use standardised assessments (for examination concessions and applications for the disabled students' allowance). Teachers in Brooks *et al.*'s (2007) study commented that standardised tests do not give a good measure of progress. They asked learners, for example, "What milestones do you see as marking your own progress?" (p. 24), as many, "have their own sense of how they have improved" (p.41). I am committed to a mix of qualitative and quantitative measures, giving a more rounded picture of a learner's needs.

Adults' attitude to assessment and their belief in their own competence levels are likely to affect their performance. Compton-Lilly (2009) finds that adults take their results on standardised reading tests very much to heart, and that stress affects their scores. They often have unduly harsh expectations. One learner "judged herself against a cultural model of reading that maintains that good readers remember what they read," (p. 39) even though she had some other very effective strategies for comprehension. Others were more positive when their ability was expressed as more natural outcomes, e.g. reading a bible or reading with their children. Cooper (2009), in criticising the construct validity of the WRAT 4 sentence comprehension subtest, laments the paucity of fit for purpose tests of comprehension skills. Royer (2001) also takes issue with standard

tests of comprehension and advocates teacher-designed assessments based on the "sentence verification technique." This asks readers to make judgements as to whether the same meaning is retained in a series of different sentences following the reading of a target sentence. There is clearly developmental work to be done designing new assessments.

On ethical grounds it is also important to evaluate whether the tools and interventions used met minimum standards for fairness, integrity and worth. Lane and Beebe-Frankenberger (2004) refer to the "social acceptability" of interventions (p. 87). Researchers and practitioners need to ensure that all steps are "necessary, appropriate, supportive of positive values" and "minimally disruptive." At the least, I feel confident that my interventions caused no actual harm, were appreciated by the learners and tutors involved and shed some light on the issues concerned.

In conclusion, a coherent assessment of an adult's reading skills needs to examine a variety of factors, as no one assessment type is sufficient on its own. It is also important to come to holistic conclusions, which reflect both the strengths and areas of difficulty experienced by the individual. Assessors will find themselves comparing and contrasting different assessment results and triangulating them against what the learners themselves say about their strategies and experience. Massengill (2004) advocates daily assessments, using real words and non-words, to build up a growing profile of learners' progress and skills, in order to capture subtle changes. There is also value in working with a learner over a period of time beyond a formal assessment, to elucidate what types of support strategies work best. In this sense, the assess-intervene-

reassess design of my study can be viewed as part of a fuller assessment process that usefully leads to a detailed learner profile. This could be more helpful than simple commercial tests alone. Practitioners should be aware of the analytic power that this cycle can afford.

This study has answered some of the issues posed in Question 2, to the extent that it offers researchers and practitioners advice on the practical and ethical issues involved in choosing and applying assessments, both qualitative and quantitative. Even standardised tests such as WRAT4 throw up anomalies for the researcher. There is still much more to do to optimise the design of suitable assessment tools for different purposes.

Q3: How far do Kruidenier's (2002) and Kruidenier *et al.*'s (2010) 4 components of reading (alphabetic, vocabulary, fluency and comprehension), elucidate the characteristics of adults' reading skills, the tools most useful for intervention, and the improvements adults may make?

- **Alphabetics (word attack skills)**

As mentioned in Chapter 8, the evidence related to word attack skills is particularly limited, with fewer tutor/learner pairs choosing to follow this strand, and showing a lack of confidence in its practice, even for lower level learners. This finding confirms that of Besser *et al.* (2004), who uncovered little use of phonics in adult literacy settings. I also think that an approach based on phonics requires a much longer period of intensive study than my six hours intervention period allowed. For this reason I also think it is not necessarily a practical

solution to adult readers' problems in a sector that is facing funding constraints (see Chapter 1 for a fuller discussion of the politics behind this). Giving adult literacy tutors the necessary level of skills to teach phonics effectively would also take considerable time and effort.

In conclusion, still more work is needed to clarify the impact of specifically teaching word attack skills with adult readers. The scale of my research limits its ability to address this fully.

- **Comprehension**

My research on this aspect of reading development focuses on the usefulness of such explicit teaching. Krudenier (2002) said comprehension is a "strategic process and these strategies can be taught" (p. 82). The tools I devised were practical: C1 a reminder to practitioners of the stages for use in the SQ3R approach and C2 in the form of a bookmark framing strategic questions to inform more effective reading. Tutor/learner pairs showed appreciation of the guidance in using these approaches and the added focus it gave to reading, particularly at higher levels. Artis (2008) warns that strategies like SQ3R do not on their own overcome comprehension difficulties. I can confirm from this study that tutors (myself included) prefer to integrate comprehension strategies into the holistic reading approach. The guidance sheets I designed for this research seek to facilitate this by placing discussion before, during and after the act of reading. It is also about acknowledging that comprehension is not just regurgitating facts but creating in the mind a "coherent, integrated representation of the text" (De Beni *et al.* 2007). This fascinating article on age differences in memory and reading comprehension highlights the importance of our response to different

text types and the way we check for textual features before adjusting our reading speed to make the most of meaning.

Several studies point out the "many different processes...involved in comprehension [which] tend to be interconnected (and interact) during reading." (Perfetti *et al.* 2008). There will be individual differences in verbal working memory, prior world knowledge, vocabulary range, and knowledge of how language works (Jincho *et al.* 2008) and the ability to draw inferences. Such complexity militates against clear findings in research like mine, but adds to the importance of describing the individual nuances of practice and performance.

For readers operating at Entry level, the barriers are to do with word attack strategies taking up too much processing capacity to allow easy access to meaning. For learners reading at higher levels, factors such as prior knowledge (of language features as well as content) and working memory capacity also play their part (Wells *et al.* 2009). These authors point to the possibility of explicit training to help readers achieve "the rapid weighing of many probabilistic constraints concerning the likely interpretation of a sentence." McShane (2005) offers really practical guidance on comprehension training based on a teacher modelling their own best practice when reading, returning "frequently to the big picture to maintain the learner's awareness of the purpose and use of the skill." (p.140).

We should return briefly to the issue of how we measure improvement in comprehension. I chose a qualitative measure comprising a combination of open ended recall of the major themes in a passage just read, plus responses to set questions, following the

methodology of Klein (2003). I assigned percentage scores to this task, based on professional judgement, which could have been a flaw had I not been concentrating on differences pre- and post-intervention rather than absolute measures. However, there are decisions in the assessment protocol which affect the outcomes, which include:

- choosing to take away the passage when the reader gave responses, placing an extra burden on memory;
- choosing to give the questions after rather than before the reading, so limiting the impact of any work on previewing which was included in the comprehension interventions;
- allowing minimal time for any other form of preview strategy before reading the assessment text;
- allowing just one reading of the text (unlike Cole 2010), when many adult literacy readers rely on multiple readings to get meaning;
- including a minimally controlled mixture of question types (Cole 2010 concentrates on facts, the Access Reading Test, McCarty and Crumpler (2006), described in Appendix 23, distinguishes different questions types and reports component scores for comprehension);
- assisting a reader in developing and maintaining useful schemata (via their own prior knowledge and through careful tutor interventions) to aid comprehension.

In particular, there was a definite effect for not allowing the use of strategies a learner had acquired in the intervention phase when it came to re-testing. As a researcher, I experienced the tension of wanting to try out more explicitly the impact of strategies I employed, as against being accused of bias in the sense of teaching to a

particular outcome. On reflection, a more developmental assessment protocol may have served a more useful evaluative purpose than the more formal duplicate post-test.

In conclusion, studies of reading which report on comprehension are fraught with difficulty related to the complexity of the construct and its component skills, along with the difficulty in measuring it reliably. My study casts some light on the complex concepts and practicalities involved.

- **Fluency**

Improvements in fluency cannot be characterised by differences in performance on a single dependent variable as with word attack skills (where the measure is reading accuracy) and comprehension (a change in comprehension score). In the case of fluency, I looked at accuracy and reading speed separately and combined as an index of reading efficiency, along with more qualitative measures. However, reading speed, as discussed in section 9.2 proves interesting and variable in its own right, and in combination effects.

Sample (2005) suggests a learning aim of moving a reader from 95% to at least 99% accuracy, by setting targets and presenting graphs of progress to motivate (in her case adolescent) learners. In her study she claims a significant effect on accuracy, fluency and comprehension through guided oral reading, repeating the same text until the target accuracy is attained. I think this way of stimulating learners by a more overt emphasis on making progress in fluency would work with adults too. Valley and Shriver (2003) also advocate repeated reading (up to 20 minutes, twice a week for 10 weeks). They found it improved reading speed but not comprehension, though more because of the ceiling effect in their method of

measuring comprehension with multiple choice questions. My ideal model for adults, given that many do not have the luxury of such intensive practice, would be to read a text in a supported way through paired reading, to encourage the reader to practise the passage in their spare time (perhaps with the aid of a tape-recording as I did with ML9 or with newer electronic aids) and then to check on progress at the next session.

Burton (2007a) defines fluency even more complexly as “rapid, accurate and expressive reading, with the momentum unbroken by the need to decode” (p. 7). A big gain for learners using paired reading was the increase in expression and attention to punctuation and grammar noted by their tutors. This helps not just learners who want to read aloud (to their children, for instance) but by the greater access to meaning this allows. McShane (2005) spells this out:

Fluency is part of the process of comprehension because fluent reading involves interpretation, grouping words into phrases and using word knowledge and punctuation to determine pacing, pauses, intonation and expression. (p. 61)

Having set out to interpret Kruidenier (2002) with guidance for the adult literacy practitioner, she gives a useful reminder that each of the four components is closely linked. In UK adult literacy circles we could do far more to emphasise the importance of fluency techniques; too often teachers are content to simply hear a learner read (and infrequently at that), without supporting proactive strategies or looking for targeted improvement.

My research elucidates the benefits of a diverse approach to fluency training, with some useful insights into paired reading, the use of

music to support reading and the constructive exploration of different aids for tracking print.

In summary, fluency is a complex construct. This study focussed on a relatively narrow set of strategies to support it, individualised to each learner, and so I am limited to saying simply that we should encourage it having a higher profile in a teacher's armoury of tactics for supporting adults' reading. Accuracy may be easy to measure and give a partial insight into one aspect of fluency, but we could usefully look more closely at other facets and the vital links between fluency and comprehension.

- **Vocabulary**

Vocabulary training is another aspect of adult literacy practice which I think is neglected in this country, perhaps because the recent emphasis on phonics has led people to believe that it is inefficient to teach individual words out of the context of sound families. Many adult literacy practitioners simply ask learners to do dictionary work as an aid to increasing vocabulary, which in itself is a problematic strategy, since it relies on surprisingly complex understanding of alphabetical order and likely spelling patterns, though more recently introduced learning aids like electronic dictionaries and text to voice assistive technology partly address this issue.

The other aspect of distinguishing work on vocabulary development is to keep it separate from fluent reading of a text. Too often teachers interrupt a reader's flow by taking too long to talk about problem words. Used in combination with paired reading (where problem words are supplied without comment) or rime prompting (where words are supplied alongside their component sounds and

then noted for further work later), separate sessions on vocabulary afford the best of both worlds. They can increase the number of words known by sight, without disrupting fluency.

The difficulty comes in evaluating this approach. As with fluency, there was no one dependent variable against which to measure progress. In retrospect, I could have asked my collaborator researchers to 'test' the number of words learners knew by the end of the intervention period. But what counts as 'know?' Is it instant visual recognition; is it knowing the meaning; is it a combination of these? Post-intervention assessments like the WRAT 4 can be viewed as a list of vocabulary, but not one that a researcher or practitioner can control. Vocabulary development based on words relevant to a learner's course of study or interests have little or no impact on performance on such tests. McShane (2005) also notes this difficulty, even in the USA where standard vocabulary inventory tests are more common. She favours less formal ways of assessing increases in vocabulary, like learner journal entries and word banks. More targeted assessment techniques risk leading to a self fulfilling prophecy ('teaching to the test' in research terms).

Even if a suitable assessment tool could be devised for vocabulary range, questions could arise about the origins of any deficiencies; might they relate to gaps in education and general knowledge, lack of exposure to words generally or specifically, poor memory skills or a visual processing difficulty.

However, as the most highly rated intervention strategy and the one to which most time was devoted, my research gives good evidence of the usefulness of vocabulary development. The qualitative gains

are notable, like ML8's new delight in the way words work and ML6's tutor noting that work on vocabulary helped with more accurate pronunciation when reading.

- **Components in combination**

Chapter 8 looked in some detail at the effect of combining two or more of Kruidenier's components in reading skills intervention. A three way combination of **word attack, fluency and vocabulary development** showed some signs of a positive effect especially on reading accuracy. However the small sub-group sample size limits the strength of interpretation.

Evaluating progress related to each of Kruidenier's components, separately and in combination has been positive, providing a structured framework for discussion in a complex case study approach like mine. It has revealed useful qualitative findings and interesting ways of making links between different skills in supporting adults' reading. This is the case, even if Kruidenier does not provide an exhaustive list of factors.

Q4: How far do individual differences impact on an adult reader's capability to improve?

Sections 9.2 and 9.3 give detailed discussion of the findings relating to individual learners and their profiles, both singly and in combination with different interventions. This study leaves me convinced that individual differences are as crucial as any group effects in researching something as complex as adults' reading skills. Even if I had worked with a higher number of learners, I am not sure that I would have achieved statistically significant results. Venezky

et al. (1994) and Hanley (1997) both advocate multiple indicator measures based on individual differences rather than group means, when evaluating support. Different approaches are bound to work differently depending on the learner's starting level (I saw some distinct differences in the subgroup of learners starting at Entry level compared with higher level achievers), age, educational experience and country of origin. Wearmouth *et al.* (2003) give a clear account of gender and ethnicity differences as they relate to access to literacy experience for children, pointing to the complex interactions of individual factors. They argue for forms of assessment that take this complexity into account and programmes of support that involve the whole context, including families. The context of adults' learning, their course of study, attitude to reading and cultural facets of the construct of reading have a huge bearing, which is explored in more ethnographically based research than mine (Barton, 2000; Jones 2000 and others).

Grant (2009) urges an eclectic approach to assessments of adults entering university. He reminds us of the range of "diagnostic outcomes to be actively explored" and the need to explore "personal experience and preferences" (p.38), using a broad portfolio of assessment tools, without preconceptions about the aetiology of a problem. His article comes in the context of a book on "neurodiversity" (Pollak 2009), the term which describes positively framed accounts of learning differences and brain function. The philosophy I espouse in my work on dyslexia and which runs through this research is similarly based on building on learners' unique pattern of strengths. Although as a result of my initial study I rejected graphic profiles of such differences in assessment terms (Appendix 21) based on Besser *et al.* (2004), I do, however, see the practical

benefit of more extended learner profiles that capture assessment results, context and experience gleaned from a period of intensive support. In Chapter 10 I expand on how I see these being used.

Q5: What are some of the features of good support for adults' reading skills that influence their improvement?

I have gathered a large amount of evidence from my collaborator researchers and the richness of the qualitative evidence they provided in the form of session records, resources and evaluations, along with audio-visual evidence of at least one session from each researcher. I myself kept reflective accounts of the sessions I had with the learners I supported. It turned out to be beyond the scope of this current study to analyse this data in detail. I contented myself with using the records as a quality check on the suitability of approaches used in each researcher-learner pairing, although, as my colleagues were virtually hand-picked and met my requirements in terms of their qualifications and experience, I feel reasonably assured. In my view it was a real benefit that each of us was experienced in the problem-solving methodology characterised by working with adults with dyslexia.

I also illustrated points in the discussion from what both learners and collaborator researchers said. In Chapter 8 I outlined the individual differences that my five collaborator researchers contributed. A check list for good practice drawn from this analysis might include:

- keeping a detailed and thoughtful reflective log,
- taking into account the additional learning needs, particularly of the lowest level learners,
- being prepared to try out new and creative methods,

- flexibility to be able to apply and adapt a given technique to group and one-to-one settings,
- actively seeking out high interest texts to work with and developing simplified versions where necessary,
- having the patience to build in repetition within and between sessions to consolidate learning,
- responding to feedback from colleagues on doing things differently,
- providing a good role model for reading, by demonstration.

Aspects that might have been improved in some cases are:

- adhering more closely to guidelines (though this applies more to the rigour of research than the flexibility of practice),
- more variety of activity within each session,
- more detailed and systematic record keeping.

In my practice as an inspector for Ofsted and a consultant in the learning and skills sector, I frequently find myself making judgements about the quality of literacy teaching in general and support for reading in particular. I have formulated guidance for and training on observation of both group sessions and one-to-one support. I am in a much better position following this study to add more precisely to those guidelines, in a piece of work which may follow on from this thesis. My interim findings point to the effectiveness of developing a good relationship of mutual trust between tutor and learner, using a thoughtful diagnostic approach throughout, and linking support strategies directly to a learner's assessed strengths. The issue for policy makers will be whether it is worth the extra investment in time and resources to fund a higher proportion of one-to-one tuition in adult literacy (the methodology is already there via additional support

funding in colleges of further education). Some of the techniques explored in this research may be applicable in a group context, but my feeling is that more rapid progress will come with individual tuition.

9.4 Summary of key findings

I conclude this chapter with a summary of key findings:

- The richness of profile analysis within my case study has revealed important issues of pedagogy and practice (see Chapter 7, Appendix 25 and section 9.2, where this is discussed) Detailed learner profiles have helped answer research questions 1, 3 and most importantly question 4.
- Methodologically, the impact of using a mixture of qualitative and quantitative data in different combinations and at different levels of detail within a case study has helped answer all of the research questions and added considerably to the body of evidence on a pedagogy for adults reading instruction (see Chapters 4 and 5 and 9.4 and 9.5, where this is discussed) .
- Strategies that have worked with individuals may well work in a different context and are worth further investigation. These include the link between reading and punctuation, the decisions made about units of sound, harnessing music to the aid of reading, the usefulness of vocabulary development and the power of paired reading to boost confidence (see Chapter 7, Appendix 25 and sections 9.2 and 9.3). This

finding stems from seeking to answer research questions 3, 4 and 5.

- The discovery of the importance of taking into consideration the characteristics of learners and their social setting, for instance bilingualism and illiteracy in the third world, is a useful outcome of research that has included analysis of individual differences. As such it is key to research questions 4 and 5 (see Chapter 7, Appendix 25 and sections 9.2 and 9.3).
- The importance of sources of motivation to learners, especially a desire to help one's children, is in itself both an aspect of individual differences (research question 4) but also goes some way to answer research question 1. Learners feel a sense of progress if they fulfil some of their motivations for learning.(see Chapter 7, Appendix 25 and sections 9.2, 9.3 and 9.4).
- The positive impact of one-to-one support, and consideration of whether this is economically viable is particularly relevant in times of public sector funding cuts (discussed in sections 8.6, 9.3 and 9.4 and followed up in Chapter 10).
- Through answering my research questions, I have tackled the difficult problem of what counts as an improvement and revealed that some progress for individuals can be made even in a very short duration of support (see Chapters 3 and 9.4)

- Considerable light has been cast on assessment practice, particularly relating to readability, the dilemmas in using qualitative and quantitative tools and the difficulty in both defining and measuring comprehension (see especially Chapters 4, 5, 6, Appendix 23 and section 9.4).
- Kruidenier's (2002) and Kruidenier *et al.*'s (2010) four components of reading have been revealed to be useful in delineating support strategies, but are perhaps even more interesting in combination (discussed in Chapters 6, 7, 8, 9.3 and 9.4).
- When making judgements on the impact of support strategies I have shown that individual differences are just as important as group effects, especially in a real-life setting. This is important methodologically, as well as in practice (see Chapters 6, 7, 8 and 9.2).
- This study has started to reveal criteria against which good practice in support for reading can be judged (discussed in Chapter 8.6).

The final chapter will return briefly to the methodological issues of my research and make recommendations for future research and practice.

Chapter 10 : Evaluation and recommendations for future research and practice

My research has been ambitious in conception and original in many aspects. It is notable that I had the design of my project (formulated in Figure 4.2) outlined in my head from the outset, over four years ago. I wanted a mixed methodology piece of action research which would challenge me developmentally and which would answer questions I have been posing for some time, at a number of different levels. Later on in the process I decided a case study framework (based on Yin 2005) suited my purposes best. It has helped impose rigour through checks for validity and reliability at regular stages, yet not unduly restricted the choices I have made. My conclusions go some way towards building explanations, though I have been open to alternatives.

My research has been original as one of very few studies that have looked in detail at adult literacy practice in this country. Cassidy *et al.* (2010) conduct a survey each year of literacy practitioners to say what are “hot topics” of interest. This year, adult literacy scores highest for “what is not hot” and also highest for “what should be hot.” Their correspondents lament the paucity of funding and the interest levels that have dwindled since the 1980s, which is a sad indictment of our sector and the funding constraints it currently faces.

One of the strengths of my study, its originality in using collaborator researchers and adult learners as key participants in the process, has also become one of its extraneous variables. Herrington and Kendall (2005) argue that this collaborative and democratic approach

is key to research that does not alienate the practitioners it seeks to advise and inform. Yet it has emerged how labour intensive and open to practical disruption this can be. My sample size and the short duration of the intervention phase may be considered limiting factors in judging my results. However, I have no regrets in placing my research clearly out in the field, in not attempting to have control groups and in setting each learner at the heart of what I planned. It is a source of huge irony that Kruidenier (2002) and Kruidenier *et al.* (2010), whose review articles formed a core starting point for my research, would probably reject this thesis as not adhering to their gold standard of research based on experimental method. Yet I am not convinced that, even with greater subject numbers and a more rigid design, statistical analysis would have revealed more interesting results than my own portrayal of individual differences and nuances in the art of supporting adults' reading. I know that I cannot be criticised by Weiner (2006), for taking insufficient account of the complex social setting of adults' reading and oversimplifying the concept of comprehension, which he argued were major deficiencies of Kruidenier's original report.

I return, next, briefly, to the quality standards for educational intervention proposed by Lane and Beebe-Frankenberger (2004), as previously listed in Chapter 4, in order to provide a summative evaluation of this research:

- My study is soundly **based on assessment practice**, and has in itself explored the rationale for assessment. Individual learners initial assessment results to a large extent determined the interventions their tutors picked. Tutors were aware of the impetus to improve performance against the

same measures - “the desired outcomes” (p.33), but forewarned the pitfall of circularity of ‘teaching to the test.’

- By the same token, the methodology **monitors learners’ progress at key points** through an “empirically validated method” (p.57) and “monitored from multiple perspectives” (p.58); a mixture of published assessment tools, quantitative and qualitative measures and different levels of detail in analysis.
- The **social validity** is ensured by canvassing the views of interested parties, via a pilot study, via collaborator researcher focus groups and feedback from session records, from learners via detailed evaluative comments. A sample of this evidence is included in Chapters 5 and 7. I have looked out for the impact of “meaningful, lasting behaviour changes” (p. 88) in the observations and feedback I have examined, as well as guarding against unwarranted effects in an ethical way.
- Lane and Beebe-Frankenberger divide **treatment integrity** into internal and external validity (p.131). The former has been assured through the detailed records that collaborator researchers compiled. Interventions were planned in detail with reference to initial assessment profiles and guidance given as to the type of strategies to be used. However, part of that guidance specified flexibility and responsiveness (license to deviate from a plan). For that reason, and also because of the centrality of individual differences in this case study I can only be assured (and would only want to be assured) of external validity, the replicability of my findings, in the broadest of terms.
- Lane and Beebe-Frankenberger specify that **generalization and maintenance** of effects should be realistic and not the

same as pure replicability (of say an experimental design transferring to a real life setting). They are more concerned with whether the effects for a given learner are likely to be meaningful and lasting. They ask that a researcher plans interventions with a view to this effect well in advance, paying attention to both the stimulus and response elements of the design (p.159). Because each of the learners in my study is unique and the interventions tailored to their needs, I prefer to be content with the assurance that those learners have applied their learning outside the classroom and plan to do so in the future. Their evaluations convinced me this was the case in all but one instance (ML8, discussed in Appendix 25). This does not preclude the validity of using similar strategies with other learners in the future. Some of the data in Chapters 6 and 8 set trends for the likelihood of future success.

- **My professional way of disseminating findings** has so far included an active website, one published article on assessment methodology, a talk given at an international conference (May 2011) and another planned (November 2011) as well as a book in preparation.

Though this review represents the position of one school of thought on evaluation of intervention-based research, it has been useful as a check on the professional conduct of this study.

September 2011 saw the publication of review of the Skills for Life strategy, ten years on from the targets set by the Westminster government for improving attainment in adult literacy (Boswell 2011). In the early years of the initiative, targets focused mainly on increasing rates of participation in training. Interim findings showed that by 2009, 5.7 million adults had taken part in learning

opportunities linked to adult literacy and numeracy. Later findings concentrated more on the continuing impact of low literacy skills and on the confidence boost that gaining a qualification in the area could convey. The new inquiry points to areas where improvements could still be made, for example, weighting provision towards lower levels and ensuring that those who gain Entry level qualifications then progress to higher levels (p.9). Even more relevant to the outcomes of my research is the plea for more “flexible, individualised approaches within small groups, which offer friendly, fun, informal and small steps to learning.” (p.9) and giving teachers the skills for “using the curricula in creative and flexible ways; understanding and responding to dyslexia; developing effective and appropriate learning of phonics; embedding and integrating literacy into other forms of learning or activities...” (p.11).

For me, a big question following on from my research is still whether group teaching can fulfil all the needs of adult learners, particularly those who are relatively novice readers or experiencing deep-seated barriers to progress. Too often, in my experience, classes with upwards of eight learners, often of mixed ability, impose too rigid a framework for reading instruction. Naturalistic reading experience is either squeezed out of the curriculum in favour of functional writing activities, or, at best, tutors leave unstated some of the metacognitive aspects of successful reading and reading comprehension. In the better sessions, groups are split into sub-groups, where learners may experience peer support or the intervention of teaching assistants seeking to solve more individual problems. However, as Besser *et al.* (2004) point out, some adult literacy teachers have insufficient skills to teach the more technical aspects of reading. Others are swayed too much by the latest government initiative, guidelines from

awarding bodies or a new technique advocated in the media. The advantage of working one-to-one is the opportunity to closely observe and assess a learner's method for reading, to draw on her strengths and seek to influence her into better reading habits based around an urgent real need. There is a precedent for this intensive work. In colleges of further education, additional learning support funding facilitates one-to-one tuition in order to give learners a better chance of passing their course. However, as I mention in my recommendations for future action, below, there is a need to quantify the amount of individual support needed to make a real difference and to justify the increased financial cost, as against the wider cost to society of having a socially disadvantaged subsector of the community. In addition, tutors need to be trained to have a wider range of effective strategies specifically for supporting adults' reading. Neither a group nor an individual approach will work, if this is development activity is not implemented.

It is very good news that the recommendations in Boswell (2011) include an impetus "to develop a standardised suite of tools and processes to be used pre and post learning activities, in order to identify the distance travelled." (p.18). This falls in accord with the design and focus of my research in relation to measuring improvements following intervention, though it should be acknowledged more work in this area is needed. It makes even more urgent some of the recommendations I make for follow up work in the final sections of this thesis.

10.1 Recommendations for future research

If I were to follow up this thesis with more research I would pursue the following themes, which have proved particularly intriguing in my work so far:

- a more wide ranging evaluation of different styles of support for comprehension, taking into account the range of text types, the range of learner motivations, and more rigorous ways of measuring outcomes;
- exploring in more detail how word attack skills and vocabulary development impact on reading accuracy;
- uncovering the factors that affect reading speed, as this was so variable in my study;
- returning to one or more of the learners from this study to see how they have progressed and to explore their longer term support needs.

10.2 Recommendations for future practice

Action research is only successful if it helps bring about change. My recommendations stemming from this research are as follows:

- To argue for the efficacy of one-to-one support for adults needing support for reading. Progress can be achieved for some learners through group work, the most common type of adult literacy provision. However, my research specifically excludes an evaluation of group approaches since my professional view is that reading requires a closer and more individualised analysis of the pattern of strengths and difficulties a reader experiences. Funding constraints in adult community settings make this a difficult case to argue; learning support in colleges is torn between in-class support and individual support which is often focused rigidly on course assignments; in prisons support for

reading relies often on volunteer peer support through schemes like Toe by Toe. More work is needed to quantify how many hours of one-to-one support are sufficient to make a difference to individual learners, so as to offer guidelines for efficient practice in each context. In my study even six hours intervention led to individual gains in reading skills and a boost to learners' confidence. How much more impact could 10 or 20 hours have? Practical reasons curtailed the duration of the intervention period in favour of working with a wider range of learners.

- To bolster the argument, one-to-one support needs to become more targeted and effective. I have shown that an initial profile of assessment scores and interview evidence can generate a viable learning plan which is then greatly enhanced by cumulative observations as support progresses. For those observations to be most useful, the support tutor needs training in a problem-solving approach with the learner him or herself empowered to be an active partner in the process. I plan to work on a toolkit for tutors in compiling and acting on learner profiles, as a follow up to this research.
- To make learner profiles more specific there is an urgent need for new assessment tools. No one assessment tool will ever suffice; it is always better to triangulate the results from several different types of test. However, most urgent is the need for a more diagnostic assessment of word recognition (highlighting cuing strategies that a reader is currently using and following through to strategies that may work better) and a more reliable measure of comprehension. Picking appropriate texts selected for readability and for interest matched to learners' motivation is harder than it

seems. Choosing a mode of questioning that can distinguish aspects of memory, vocabulary, general knowledge, ability to analyse and make inferences is crucial. Decisions will need to be taken as to whether standardisation of scores is important (given the huge outlay of time and expense for test development). Batteries of tests should lead to an open-minded diagnosis of ability and attainment and not be unduly biased towards a particular theory or model:

Linking assessments to theoretical frameworks and research knowledge improves the applicability of diagnostic information. However, existing assessments reflect the concentration on phonology in reading research over the last two decades. (Shapiro *et al.* (2009, p.18)

This is a salutary warning against research that seeks to engineer the findings it wants through poor assessment practice. Shapiro *et al.* extrapolate from their initial studies in the primary school classroom in the second part of the article to research important issues for developing readers in secondary school and adult life. There is a need to distinguish initial assessment, formative assessment for practical purposes and assessment which informs research. For initial assessment it might be important to have criterion-related measures (for instance to enable access for learners to additional support, exam concessions and funding). For formative assessment we might favour regular updates on initial profiles with targets to motivate performance of the kind favoured by Massengill (2004). In measuring progress pre- and post- intervention we definitely need something less crude and with narrower confidence ranges than tests like WRAT 4 (Wilkinson and Robertson 2006).

- Finally there is a need to formulate guidance on strategies for reading support and resources that meet a practitioner's needs. Returning to the NRDC series of research reports that was a key influence on my study, Besser *et al.* (2004) and Brooks *et al.* (2007) challenge us to increase the range of strategies to support reading and to target them more specifically to learners' needs. My development of guidance sheets has added to the opus of resources available to adult literacy practitioners. I aim to publish these more widely and add to the selection through my website (Partridge 2010a) and through a companion textbook. This takes me personally back to my original inspiration, the book by Klein and Millar (1990), "Unscrambling Spelling" and my aim to do a similar job with "Unravelling Reading."

Bibliography

Adelman, J. S., Brown, G. D. A. & Quesada, J. F. (2006) Contextual diversity, not word frequency, determines word-naming and lexical decision times, **Psychological science**, 17 (9): 814-823.

Alexander R. ed. (2009) **Children, their world, their education: final report and recommendations of the Cambridge Primary Review**. Abingdon, Routledge [online]
<http://www.primaryreview.org.uk> [accessed 16 October 2010]

Allison, E. (2009) You don't need academics to tell you that phonics work, **The Guardian**, 21 April, [online]
<http://www.guardian.co.uk/education/2009/apr/21/prisons-and-probation> [accessed 16 October 2010]

Ambe, E. B. (2007) Inviting reluctant adolescent readers into the literacy club: Some comprehension strategies to tutor individuals or small groups of reluctant readers, **Journal of adolescent & adult literacy**, 50 (8): 632-639.

Artis, A. B. (2008) Improving marketing students' reading comprehension with the SQ3R method, **Journal of marketing education**, 30 (2):130-137.

Bailey, N.T.J (1995) **Statistical methods in Biology**, 3rd edition, Cambridge, Cambridge University Press.

Barton, D. (2000) Researching literacy practices: learning from activities with teachers and students, in: D. Barton, M. Hamilton & R. Ivanic (eds.), **Situated literacies: reading and writing in context**, London, Routledge.

Barton, D. (2001) Directions for literacy research: analysing language and social practices in a textually-mediated world, **Language and education**, 15 (2): 92-104.

Basic Skills Agency. (2001) **The adult literacy core curriculum**, London, The Basic Skills Agency.

Bell, T. (2001) Extensive reading: Speed and comprehension, **The reading matrix**, 1 (1).

- Bell, L. C. & Perfetti, C. A. (1994) Reading skill: Some adult comparisons, **Journal of educational psychology**, 86 (2): 244-255.
- Belzer, A. & St. Clair, R. (2005) Back to the future: Implications of the neopositivist research agenda for adult basic education, **Teachers College record**, 107 (6): 1393-1411.
- British Educational Research Association (BERA) (2004) Revised ethical guidelines for educational research [online]
<http://www.bera.ac.uk/files/guidelines/ethica1.pdf> [accessed May 2011]
- Besser, S., Brooks, G., Burton, M., Parisella, M., Spare, Y., Stratford, S. & Wainwright, J. (2004) **Adult literacy learners' difficulties in reading: an exploratory study**, London, National Research and Development Centre for Adult Literacy and Numeracy.
- Bomer, R. (2006) Reading with the mind's ear: Listening to text as a mental action, **Journal of adolescent & adult literacy**, 49 (6): 524-535.
- Booth, J. R. & Perfetti, C. A. (2002) Onset and rime structure influences naming but not early word identification in children and adults, **Scientific studies of reading**, 6 (1): 1-23.
- Boswell, T. (2011) **Work, Society and Lifelong Literacy: Report of the inquiry into adult literacy in England**, Leicester, National Institute of Adult Continuing Education.
- Boyle, J. & Fisher, S. (2007) **Educational testing: a competence-based approach**, Oxford, BPS Blackwell.
- Brace, N., Kemp, R. & Snelgar, R. (2006) **SPSS for psychologists**, Basingstoke, Palgrave Macmillan.
- Braze, D., Tabor, W., Shankweiler, D. P. & Mencl, W. E. (2007) Speaking up for vocabulary: Reading skill differences in young adults, **Journal of learning disabilities**, 40 (3): 226-243.
- Brooks, G., Burton, M., Cole, P. & Szczerbinski, M. (2007) **Effective teaching and learning: reading**, London, National Research and Development Centre for Adult Literacy and Numeracy.
- Brooks, G. and Cooper, R. (2010) The bother with phonics, **Reflect**, Issue 13: 21-23

Brooks, G., Heath, K. & Pollard, A. (2005) **Assessing adult literacy and numeracy: a review of assessment instruments**, London. National Research and Development Centre for Adult Literacy and Numeracy.

Brooks, P. Everatt, J. & Fidler, R. (2004) **Adult Reading Test (ART)**, London, Roehampton University of Surrey.

Bruck, M. (1992) Persistence of dyslexics' phonological deficits. **Developmental psychology**, 28 (5): 874-886.

Burgess, H., Sieminski, S. & Arthur, L. (2006) **Achieving your doctorate in education**, Leicester, The Open University: Sage Publications Ltd.

Burton, M. (2007a) **Reading: developing adult teaching and learning: practitioner guides**, London, National Research and Development Centre for Adult Literacy and Numeracy.

Burton, M. (2007b) **Oral reading fluency for adults**, London, National Research and Development Centre for Adult Literacy and Numeracy.

Burton, M. (2012) **Phonetics for phonics: underpinning knowledge for adult literacy practitioners**. Leicester, National Institute of Adult Continuing Education.

Burton, M., Davey, J., Lewis, M., Roberts, T. K. & Brooks, G. (2008) **Improving reading: phonics and fluency**. London, National Research and Development Centre for Adult Literacy and Numeracy.

Burton, M., Davey, J., Lewis, M. Ritchie, L. & Brooks, G. (2010) **Progress for adult readers: research report**. London, National Research and Development Centre for Adult Literacy and Numeracy.

Cain, K. (2010) **Reading development and difficulties**, Chichester, BPS Blackwell.

Cassidy, J. Valadez, C.M., Garrett, S.D. & Barrera, E.S. (2010) Adolescent and adult literacy: what's hot, what's not. **Journal of adolescent & adult literacy**, 53 (6): 448-456.

Chapman, J. W. & Tunmer, W. E. (2003) Reading difficulties, reading-related self-perceptions, and strategies for overcoming negative self-beliefs, **Reading & writing quarterly**, 19 (1): 5-24.

Charnley, A.H. and Jones, H.A. (1979) The concept of success in adult literacy, London, Adult Literacy and Basic Skills Unit.

Clay, M. (1985) The early detection of reading difficulties (3rd edition), Auckland, New Zealand, Heinemann.

Cohen, L., Manion, L. & Morrison, K. (2007) Research methods in education (6th edition), London, Routledge.

Cole, R. (2010) Super Reading [online]
<http://www.alchemy.name/html/superreading.html> [accessed 15 April 2010]

Coleman, L. & Ainley, N. (2010) Yes we can read: one to one reading scheme for learners from 8 to 80, Warrington, UK, Gatehouse Media Limited.

Coles, G. (2004) Danger in the classroom: 'Brain glitch' research and learning to read. (Cover story), Phi Delta Kappan, 85 (5): 344-351.

Coltheart, M. (2005) Modeling reading: the dual-route approach in: M. Snowling J & C. Hulme (eds.), The science of reading: a handbook, Oxford, Blackwell Publishing.

Compton-Lilly, C. (2009) Disparate reading identities of adult students in one GED program, Adult basic education & literacy journal, 3 (1): 34-43.

Cooper, R. (2004) Key differences in thinking styles in: LLU+, Postgraduate certificate in adult dyslexia diagnosis and support, Course reader Part 1, London, London Southbank University.

Cooper, R. (2006) A social model of dyslexia [online]
http://www1.lsbu.ac.uk/lluplus/docs/reports/a_social_model_of_dyslexia.pdf [accessed 16 October 2010]

Cooper, R. (2009) Evaluation of a 'super reading' course with dyslexic adults [online] <http://www.alchemy.name/html/lsbu.html> [accessed 15 April 2010]

Corbin, J. & Strauss, A. (1990) Grounded theory research: procedures, canons, and evaluative criteria, Qualitative sociology, 13 (1): 3.

Cowling, K. & Cowling, H. (1993) **Toe by Toe: A highly structured multi-sensory reading manual for teachers and parents**, Baidon, West Yorkshire, K and H Cowling.

Cramer, K. & Rosenfield, S. (2008) Effect of degree of challenge on reading performance, **Reading & writing quarterly**, 24 (1): 119-137.

Datta, M. (2000) **Bilinguality and literacy**, London, Continuum.

De Beni, R., Borella, E. & Carretti, B. (2007) Reading comprehension in aging: The role of working memory and metacomprehension. **Aging, neuropsychology & cognition**, 14 (2): 189-212.

Dehaene, S. (2009) **Reading in the brain: the science and evolution of a human invention**, New York, Penguin.

Dell, C., Harrold, B. & Dell, T. (2008) Review of WRAT 4, **Rehabilitation counseling bulletin**, 52 (1): 57-60.

Dickens, C. (1996) **Bleak House**, London, Penguin. (first published 1853)

Eden, G. F., Jones, K. M., Cappell, K., Gareau, L., Wood, F. B., Zeffiro, T. A., Dietz, N. A. E., Agnew, J. A. & Flowers, D. L. (2004) Neural changes following remediation in adult developmental dyslexia, **Neuron**, 44 (3): 411-422.

Edexcel (2010) Sample assessment material: Functional Skills English, levels 1 and 2 [online] <http://www.edexcel.com/quals/functional-skills/Pages/default.aspx> [accessed 16 October 2010]

Ehri, L. C., (1999) Phases of development in learning to read words, in Oakhill, J. and Beard, R. (eds.) **Reading development and the teaching of reading**, Oxford, Blackwell.

Ellis, A., W. (1993) **Reading, writing and dyslexia: a cognitive analysis**, Hove, Psychology Press.

English-Zone (2004) **Dolch basic wordlist from English-Zone.com** [online] <http://www.english-zone.com/reading/dolch.html> [accessed 16 October 2010]

Fink, R. P. (1996) Successful dyslexics: A constructivist study of passionate interest reading, **Journal of adolescent & adult literacy**, 39 (4): 268-282.

- Fitzgerald, N. B. & Young, M. B. (1997) The influence of persistence on literacy learning in adult. **Adult education quarterly**, 47 (2): 78-92.
- Fordham, N. W. (2006) Crafting questions that address comprehension strategies in content reading, **Journal of adolescent & adult literacy**, 49 (5): 390-396.
- Fournier, D. N. E. & Graves, M. F. (2002) Scaffolding adolescents' comprehension of short stories, **Journal of adolescent & adult literacy**, 46 (1): 30-40.
- Freebody, P. (2007) **Literacy education in school: research perspectives from the past, for the future**, Camberwell, Victoria, Australia, Australian Council for Educational Research.
- Freire, P. and Macedo, D (2005) **Literacy: Reading the word and the world**, London, Taylor and Francis e-library.
- Frith, U. (1999) Paradoxes in the definition of dyslexia, **Dyslexia** (10769242), 5 (4): 192-214.
- Frith, U. (2002) Resolving the paradoxes of dyslexia in: G. Reid & J. Wearmouth (eds.), **Dyslexia and literacy: Theory and practice**, Chichester, John Wiley.
- Gee, J. P. (2000) The new literacy studies: from 'socially situated' to the work of the social in: D. Barton, M. Hamilton & R. Ivanic (eds.), **Situated literacies: reading and writing in context**, London, Routledge.
- George, D. & Mallery, P. (2003) **SPSS for Windows step by step: a simple guide and reference, 11.0 update**, Boston, Pearson Education inc.
- Geva, E. (2009) What's so special about learning to read in a second language [online]
<http://www.ccl-cca.ca/CCL/Events/Minerva/PastLectures/PastLecturesGeva.html>
[accessed 16 October 2010]
- Gickling, E. E. & Armstrong, D. L. (1978) Levels of instructional difficulty as related to on-task behavior, task completion, and comprehension, **Journal of learning disabilities**, 11 (9) 32-39.

Glover, J. A., Ronning, R. R. & Bruning, R. H. (1990) **Cognitive psychology for teachers**, New York, Macmillan.

Goodman, K. (1967) Reading: a psycholinguistic guessing game, **The journal of the reading specialist**, 6 (4) 126-135.

Gottardo, A., Siegel, L. S. & Stanovich, K. E. (1997) The assessment of adults with reading disabilities: What can we learn from experimental tasks? **Journal of research in reading**, 20 (1): 42.

Gough, P.B. & Tunmer, W.E. (1986) Decoding, reading and reading disability, **Remedial and special education**, 7: 6-10

Grant, D. (2009) The psychological assessment of neurodiversity in: D. Pollak (ed.), **Neurodiversity in higher education: positive responses to specific learning differences**, Chichester, West Sussex, Wiley-Blackwell.

Greenberg, D. & Ehri, L. C. (1997) Are word-reading processes the same or different in adult literacy students and third-fifth graders matched for reading level? **Journal of educational psychology**, 89 (2): 262-275.

Greenberg, D., Fredrick, L. D., Hughes, T. A. & Bunting, C. J. (2002) Implementation issues in a reading program for low reading adults, **Journal of adolescent & adult literacy**, 45 (7): 626-633.

Gregory, E. (1996) **Making sense of a new world: learning to read in a second language**. London, Paul Chapman Publishing.

Hanley, J. R. (1997) Reading and Spelling Impairments in Undergraduate Students with Developmental Dyslexia, **Journal of research in reading**, 20 (1): 22-31.

Harreveld, B. (2001) Discourse co-ordinations within adult literacy teaching, **Queensland journal of educational research**, 17 (2): 138-151.

Heath, S. (1982) Protean shapes in literacy events in: D. Tannen (ed.), **Spoken and written language: exploring orality and literacy**, Norwood, N.J., Ablex.

- Herrington, M. (2005) **Dyslexia: the continuing exploration. Insights for literacy educators in: M. Herrington & A. Kendall (eds.), Insights from research and practice: a handbook for adult literacy, numeracy and ESOL practitioners**, Leicester, National Institute of Adult Continuing Education.
- Herrington, M. & Kendall, A. (eds.) (2005) **Insights from research and practice: a handbook for adult literacy, numeracy and ESOL practitioners**, Leicester, National Institute of Adult Continuing Education.
- Hickmott, O. & Bendefy, A. (2006) **Seeing spells achieving**, Wendover, Buckinghamshire, UK, MX Publishing.
- Holmes, V. M. (2009) Bottom-up processing and reading comprehension in experienced adult readers, **Journal of research in reading**, 32 (3): 309-326.
- Homan, R. (2002) The principle of assumed consent: the ethics of gatekeeping, in McNamee, M. and Bridges, D. eds.(2002) **The ethics of educational research**, Oxford, Blackwell.
- Hughes, N. & Schwab, I. (eds.) (2010) **Teaching adult literacy: principles and practice**. Maidenhead, McGraw-Hill Education and the Open University.
- Hunt, G. (2002) Critical literacy and access to the lexicon in: G. Reid & J. Wearmouth (eds.), **Dyslexia and literacy: theory and practice**, Chichester, John Wiley.
- Hyönä, J. & Nurminen, A. (2006) Do adult readers know how they read? Evidence from eye movement patterns and verbal reports, **British journal of psychology**, 97 (1): 31-50.
- Ikoya, P. O. & Onoyase, D. (2008) Universal basic education in Nigeria: availability of schools' infrastructure for effective program implementation, **Educational studies (03055698)**, 34 (1): 11-24.
- Irlen, H. & Lass, M. J. (1989) Improving reading problems due to symptoms of scotopic sensitivity syndrome using Irlen lenses and overlays, **Education**, 109 (4): 413.
- Ivanic, R. (1996) Linguistic and non-standard punctuation in: N. Hall & A. Robinson (eds.), **Learning about punctuation**, Portsmouth, NH, Heinemann.

Jarvis, P. (1995) **Adult and continuing education: theory and practice**, London, Routledge.

Jiménez, J. E. & Venegas, E. (2004) Defining phonological awareness and its relationship to reading skills in low-literacy adults, **Journal of educational psychology**, 96 (4): 798-810.

Jincho, N., Namiki, H. & Mazuka, R. (2008) Effects of verbal working memory and cumulative linguistic knowledge on reading comprehension, **Japanese psychological research**, 50 (1): 12-23.

Jones, H.A. and Charnley, A.H. (1978) **Adult literacy: a study of its impact**, Leicester, National Institute of Adult Education.

Jones, K. (2000) Becoming just another alphanumeric code: farmers' encounters with the literacy and discourse practices of agricultural bureaucracy at the livestock auction, in: D. Barton, M. Hamilton & R. Ivanic (eds.), **Situated literacies: reading and writing in context**, London, Routledge.

Jones, M., Branigan, H. & Kelly, M. (2008) Visual deficits in developmental dyslexia: Relationships between non-linguistic visual tasks and their contribution to components of reading, **Dyslexia: An international journal of research and practice**, 14 (2):95-115.

Kingston, P. (2009) Can you teach an old dog with young tricks? **The Guardian**, 14 April [online]
<http://www.guardian.co.uk/education/2009/apr/14/literacy-adult-education-phonics> [accessed 16 October 2010]

Kintsch, W. & Rawson, K., A. (2005) Comprehension in: M. Snowling J & C. Hulme (eds.), **The science of reading: a handbook** , Oxford, Blackwell Publishing.

Klein, C. (2003) **Diagnosing dyslexia: a guide to the assessment of adults**, London, The Basic Skills Agency.

Klein, C. & Millar, R. (1990) **Unscrambling spelling**. London, Hodder & Stoughton.

Knight, J. (2000) Different traditions, **Changing English: studies in reading & culture**, 7 (1): 23-31.

Knowles, M.S. (1984) **The adult learner: a neglected species**, 3rd edition, Houston, Gulf.

Kruidenier, J. (2002) **Research-based principles for adult basic education reading instruction**, Portsmouth, NH, National Institute for Literacy.

Kruidenier, J. R., MacArthur, C. A., & Wrigley, H. S. (2010). **Adult Education Literacy Instruction: A Review of the Research**. Washington, DC: National Institute for Literacy.

L'Allier, S. K. & Elish-Piper, L. (2007) "Walking the walk" with teacher education candidates: Strategies for promoting active engagement with assigned readings, *Journal of adolescent & adult literacy*, 50 (5): 338-353.

Lane, K.L. and Beebe-Frankenberger, M. (2004) **School-based interventions: the tools you need to succeed**, Boston, Pearson Education.

Learning and Skills Improvement Service (LSIS) (2009) Adult literacy core curriculum [online]
<http://www.excellencegateway.org.uk/page.aspx?o=sfl-cc-literacy>
[accessed 16 October 2010]

Lehtonen, A. & Treiman, R. (2007) Adults' knowledge of phoneme-letter relationships is phonology based and flexible, *Applied psycholinguistics*, 28 (1): 95-114.

Le Mottee, S. (2009) Language in Education [online]
http://www.osisa.org/resources/docs/PDFs/OpenSpace-Nov2008/2_3_language_p032-038_sherri_le_mottee.pdf [accessed 16 October 2010]

Leon, J.A. & Perez, O. (2001) The influence of prior knowledge on the time course of clinical diagnosis inferences: a comparison of experts and novices. *Discourse Processes*, 31 (2):187-213.

London South Bank University (LSBU) (2010) [PgDip in Adult Dyslexia, Diagnosis and Support \(ADDS\)](http://www.lsbu.ac.uk/lluplus/training/ma_framework2_p1.shtml)
http://www.lsbu.ac.uk/lluplus/training/ma_framework2_p1.shtml
[accessed 18 October 2010]

Lost for Words (2007) Channel 4 TV. 23, 24 and 25 October 2007. 21.00. website:
http://www.channel4.com/culture/microsites/L/lost_for_words
[accessed 16 October 2010], also <http://www.readwriteinc.com>
[accessed 16 October 2010]

Lundberg, I. & Høien, T. (2001) Dyslexia and phonology in: A. Fawcett, (ed.), **Dyslexia: theory and good practice**, London, Whurr Publishers.

Massengill, D. (2004) The impact of using guided reading to teach low-literate adults, **Journal of adolescent & adult literacy**, 47 (7): 588-602.

McCarty, C. & Crumpler, M. (2006) **Access reading test**, London, Hodder Murray.

McShane, S. (2005) [online] **Applying research in reading instruction for adults. First steps for teachers**, Washington DC, National Institute for Literacy
<http://www.nifl.gov/publications/pdf/applyingresearch.pdf> [accessed 16 October 2010]

Merriam, S.B. (2001) Andragogy and self-directed learning: pillars of adult learning theory, **New directions for adult and continuing education**, 89 (Spring): 3-13.

Millar, R. & Klein, C. (2002) **Making sense of spelling**, London, SENJIT, University of London Institute of Education.

Miskin, R. (2007) **The Times**, 21 October [online] Read my lips, I can fix our schools
<http://www.timesonline.co.uk/tol/news/uk/education/article2701376.ece> and <http://www.readwriteinc.com> [accessed 16 October 2010]

More or Less (2007) BBC Radio 4. 3 December 2007 and 10 December 2007, 16.30. [online]
http://news.bbc.co.uk/1/hi/programmes/more_or_less/7115510.stm [accessed 18 October 2010]

Moseley, D. & Poole, S. (2001) The advantages of rime-prompting: a comparative study of prompting methods when hearing children read, **Journal of research in reading**, 24 (2): 163-173.

Naidoo, L. (2011) What works?: a program of best practice for supporting the literacy needs of refugee high school students. **Literacy Learning: The Middle Years**, 19(1): 29-38.

Nation, K. (2008) Learning to read words, **Quarterly journal of experimental psychology**, 61 (8): 1121-1133.

- Nelson, H. (1977) New Adult Reading Test, 1977 in: C. Klein (2003) **Diagnosing dyslexia: a guide to the assessment of adults**, London, The Basic Skills Agency.
- Nero, S. (2006) Language, identity, and education of Caribbean English speakers, **World Englishes**, 25 (3): 501-511.
- Nes Ferrara, S. L. (2005) Reading fluency and self efficacy: A case study, **International journal of disability, development & education**, 52 (3): 215-231.
- Ofsted (2009) **The common inspection framework for further education and skills 2009**, [online] <http://www.ofsted.gov.uk/Ofsted-home/Forms-and-guidance/Browse-all-by/Other/General/Common-inspection-framework-for-further-education-and-skills-2009> [accessed June 2011]
- Open Society Initiative for Southern Africa, (OSISA) (2008) **Adult literacy: putting Southern African policy and practice into perspective**. [online] <http://www.osisa.org/resources/docs/PDFs/Adult-Literacy.pdf> [accessed 16 October 2010]
- Ouellette, G. P. (2006) What's meaning got to do with it: The role of vocabulary in word reading and reading comprehension, **Journal of educational psychology**, 98 (3): 554-566.
- Pannucci, L. & Walmsley, S. A. (2007) Supporting learning-disabled adults in literacy, **Journal of adolescent & adult literacy**, 50 (7): 540-546.
- Parr, J. M. & Maguiness, C. (2005) Removing the silent from SSR: Voluntary reading as social practice, **Journal of adolescent & adult literacy**, 49 (2): 98-107.
- Partridge, S. E. (2009) Reading for adults **The Guardian**, 28 April, [online] <http://www.guardian.co.uk/education/2009/apr/28/education-letters> [accessed 16 October 2010]
- Partridge, S. E. (2010a) Unravelling reading [online] <http://www.unravellingreading.org.uk> [accessed 16 October 2010]
- Partridge, S. E. (2010b) Demystifying miscue analysis, **Patoss Bulletin**, 23 (2): 23-30.

Pendlebury, S. And Eslin, P. (2002) Representation, identification and trust: towards an ethics of educational research, in McNamee, M. and Bridges, D. eds.(2002) **The ethics of educational research**, Oxford, Blackwell.

Pennington, B. F., Van Orden, G. C., Smith, S. D., Green, P. A. & Haith, M. M. (1990) Phonological processing skills and deficits in adult dyslexics, **Child development**, 61 (6): 1753-1779.

Perfetti, C. A., Landi, N. & Oakhill, J. (2005) The acquisition of reading comprehension skill in: M. Snowling J & C. Hulme (eds.), **The science of reading: a handbook**, Oxford, Blackwell Publishing.

Perfetti, C., Chin-Lung Yang & Schmalhofer, F. (2008) Comprehension skill and word-to-text integration processes, **Applied cognitive psychology**, 22 (3): 303-318.

Perrin, L. & Powell, B. (2004) **Short-term intervention, long-term gain: using action research projects for quality improvement in adult and community learning**, London, Learning and Skills Development Agency.

Plaut, D., C. (2005) Connectionist approaches to reading in: M. Snowling J. & C. Hulme (eds.), **The science of reading: a handbook**, Oxford, Blackwell Publishing.

Pogorzelski, S. & Wheldall, K. (2005) The importance of phonological processing skills for older low-progress readers, **Educational psychology in practice**, 21 (1): 1-22.

Pollak, D. (2009), **Neurodiversity in higher education: positive responses to specific learning differences**, Chichester, West Sussex, Wiley-Blackwell.

Pring, R. (2002) The virtues and vices of an educational researcher, in McNamee, M. and Bridges, D. eds.(2002) **The ethics of educational research**, Oxford, Blackwell.

Programme for International Student Assessment. (2007) in: **PISA 2006 Science competencies for tomorrow's world**, Paris, Organisation for Economic Co-operation and Development.

Ransby, M. J. & Swanson, H. L. (2003) Reading comprehension skills of young adults with childhood diagnoses of dyslexia, **Journal of learning disabilities**, 36 (6): 538-555.

Reimer, J. F. (2006) Developmental changes in the allocation of semantic feedback during visual word recognition, **Journal of research in reading**, 29 (2): 194-212.

Rice, M. & Brooks, G. (2004) **Developmental dyslexia in adults: a research review**, London, National Research and Development Centre for Adult Literacy and Numeracy.

Robson, C. (2002) **Real world research**, 2nd ed. Oxford, Blackwell Publishing.

Rose, J. (2006) **Independent review of the teaching of early reading**, London, Department for Education and Skills.

Rose, J. (2009) **Identifying and teaching children and young people with dyslexia and literacy difficulties**, London DCFS Publications. [online] www.teachernet.gov.uk/publications [accessed 9 August 2011]

Royer, J. M. (2001) Developing reading and listening comprehension tests based on the Sentence Verification Technique (SVT), **Journal of adolescent & adult literacy**, 45: 30-42.

Sammons, P. (1989) Ethical issues and statistical work, in Burgess, R.G. ed. (1989) **The ethics of educational research**, Lewes, The Falmer Press

Sample, K. J. (2005) Promoting fluency in adolescents with reading difficulties, **Intervention in school & clinic**, 40 (4): 243-246.

Samson, M. (2010) **SMOG calculator** [online] <http://www.niace.org.uk/misc/SMOG-calculator/smogcalc.php#> [accessed 16 October 2010]

Sandman-Hurley, K. (2008) Volunteers tutoring reading-disabled adult literacy learners: a case study, **Adult basic education and literacy journal**, 2 (2): 94-103.

Savage, R. (2001) The 'simple view' of reading: some evidence and possible implications, **Educational psychology in practice**, 17 (1): 17-33.

Scarborough, H. S., Ehri, L. C., Olson, R. K. & Fowler, A. E. (1998) The fate of phonemic awareness beyond the elementary school years, **Scientific studies of reading**, 2 (2): 115-142.

Scheiman, M. (2004) Colored lenses to improve reading comfort and performance: Are underlying vision problems being missed? **Journal of optometric vision development**, 35 (1): 37-41.

Schiff, R. (2004) An academic intervention program for EFL university students with reading disabilities, **Journal of adolescent & adult literacy**, 48 (2): 102-113.

Schlink, B. (2008), translated Carol Brown Janeway, **The Reader**, London, Phoenix.

Schön, D. (1987) **Educating the reflective practitioner**, San Fransisco, Jossey-Bass Inc.

Schwab, I. (2010) Reading, in Hughes, N. & Schwab I. eds.(2010) **Teaching adult literacy, principles and practice**, Maidenhead, McGraw-Hill Education and the Open University.

Sender, J., Cramer, C. & Oya, C. (2005) Unequal prospects: disparities in the quantity and quality of labour supply in sub-Saharan Africa [online] <http://eprints.soas.ac.uk/5791/> [accessed 16 October 2010]

Shapiro, L. R., Hurry, J., Masterson, J., Wydell, T. N. & Doctor, E. (2009) Classroom implications of recent research into literacy development: from predictors to assessment, **Dyslexia (10769242)**, 15 (1):1-22.

Share, D. L. (1995) Phonological recoding and self-teaching: sine qua non of reading acquisition, **Cognition**, 55 (2): 151-218.

Share, D. L. (1996) Word recognition and spelling processes in specific reading disabled and garden-variety poor readers, **Dyslexia (10769242)**, 2 (3): 167-174.

Shaywitz, B. A., Lyon, G. R. & Shaywitz, S. E. (2006) The role of functional magnetic resonance imaging in understanding reading and dyslexia, **Developmental neuropsychology**, 30 (1): 613-632.

Silberberg, N.E. and Silberberg, M.C. (1968) Case histories in hyperlexia, **Journal of school psychology**, 7 (1): 3-7.

Skills Funding Agency (2009) Guidance note number 1: December 2009: Funding allocations for the 2010/11 academic year [online] <http://readingroom.lsc.gov.uk/lsc/National/sfa-guidancenote1-dec2009-v1-1.pdf> [accessed 16 October 2010]

Snowling, M., J & Hulme, C. (eds.) (2005) **The science of reading: a handbook**, Oxford, Blackwell Publishing.

Stanovich, K. E. (1986) Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy, **Reading research quarterly**, 21 (4): 360-406.

Stanovich, K. E. (1988) Explaining the differences between the dyslexic and the garden-variety poor reader: The phonological-core variable-difference model, **Journal of learning disabilities**, 21 (10): 590-605.

Swabey, A. (2003) Irregular word list in: C. Klein (2003) **Diagnosing dyslexia: a guide to the assessment of adults**, London, The Basic Skills Agency.

Swan, M. (2006) **Collaborative learning in mathematics: a challenge to our beliefs and practices**, London, National Research and Development Centre for Adult Literacy and Numeracy, National Institute of Adult and Continuing Education.

Tadlock, D. (2005) **Read Right! Coaching your child to excellence in reading**, New York, McGraw Hill [online] <http://www.readright.com> [accessed 16 October 2010]

Taub, M. B., Shallo-Hoffmann, J., Steinman, S. & Steinman, B. (2009) The effect of colored overlays on reading eye movements in adults, **Journal of behavioral optometry**, 20 (6): 143-149.

Texthelp Systems Ltd. (2010) Read&Write Gold 9 [online] http://www.texthelp.com/page.asp?pg_id=1263 [accessed 16 October 2010]

Topping, K. (2001) Paired reading - how to do it: a guide for peer tutors [online] <http://www.dundee.ac.uk/eswce/research/projects/trwresources/men u/howtodoitpeer/> [accessed 16 October 2010]

Torgerson, C. J., Porthouse, J. & Brooks, G. (2003) A systematic review and meta-analysis of randomised controlled trials evaluating interventions in adult literacy and numeracy, **Journal of research in reading**, 26 (3): 234-256.

Torgesen, J. K. (2001) The theory and practice of intervention: comparing outcomes from prevention and remediation studies in: A.(ed.), **Dyslexia: theory and good practice**, London, Whurr Publishers.

Torgesen, J. K., Wagner, R. & Rashotte, C. (1999) **TOWRE: Test of word reading efficiency**, Austin, Texas, PRO-ED Inc.

Tough, A.M. (1967) **Learning without a teacher**, Ontario, The Ontario Institute for Studies in Education [online]
<http://ietl.org/tough/books/lwt.htm> [accessed 22 July 2011]

Turner, M. (2003) in: The nonword decoding test, Egham, Surrey, Dyslexia Action.

Twist, L., Shagen, I. & Hodgson, C. (2007) [online] **Progress in international reading literacy study: Readers and reading: National report for England 2006**, Slough, National Foundation for Educational Research [online] <http://www.primaryreview.org.uk> [accessed 16 October 2010]

Tymms, P. & Merrell, C. (2007) **Standards and quality in English primary schools over time: the national evidence (Primary Review Research Survey 4/1)**, Cambridge, University of Cambridge Faculty of Education.

Valleley, R. J. & Shriver, M. D. (2003) An examination of the effects of repeated readings with secondary students, **Journal of behavioral education**, 12 (1): 55-76.

Veenman, M.V.J. & Beishuizen, J.J. (2004) Intellectual and metacognitive skills of novices while studying texts under conditions of text difficulty and time constraint, **Learning and instruction**, 14: 621-640.

Vellutino, F. R. & Fletcher, J., M. (2005) Developmental dyslexia in: M. Snowling J & C. Hulme (eds.), **The science of reading: a handbook**, Oxford, Blackwell Publishing.

Venezky, R. L., Bristow, P. S. & Sabatini, J. P. (1994) Measuring change in adult literacy programs: enduring issues and a few answers, **Educational assessment**, 2 (2): 101-132.

Wearmouth, J. Soler, J. & Reid, G. (2003) **Meeting difficulties in literacy development: research, policy and practice**, London and New York, Routledge Falmer.

Weiner, E. J. (2006) Keeping adults behind: Adult literacy education in the age of official reading regimes, **Journal of adolescent & adult literacy**, 49 (4): 286-301.

Wells, J. B., Christiansen, M. H., Race, D. S., Acheson, D. J. & MacDonald, M. C. (2009) Experience and sentence processing: Statistical learning and relative clause comprehension, **Cognitive psychology**, 58 (2): 250-271.

Whetton, C., Ruddock, G. & Twist, L. (2007) [online] in: Standards in English primary education: the international evidence (Primary Review Research Survey 4/2), Cambridge, University of Cambridge Faculty of Education. [online] <http://www.primaryreview.org.uk> [accessed 16 October 2010]

Wilkinson, G. (1993) **Wide Range Achievement Test 3**, Wilmington, Delaware, Wide Range, Inc.

Wilkinson, G. & Robertson, G. J. (2006) **WRAT 4 Wide Range Achievement Test, Professional Manual**, Lutz, Florida, Psychological Assessment Resources, Inc.

Winn, B. D., Skinner, C. H., Oliver, R., Hale, A. D. & Ziegler, M. (2006) The effects of listening while reading and repeated reading on the reading fluency of adult learners, **Journal of adolescent & adult literacy**, 50 (3): 196-205.

Wolf, M. (2008) **Proust and the squid: the story and science of the reading brain**, Cambridge, England, Icon Books Ltd.

Wolf, M. & O'Brien, B. (2001) On issues of time, fluency and intervention in: A. Fawcett, (ed.), **Dyslexia: theory and good practice**, London, Whurr Publishers.

Yin, R. K. (2009) **Case study research: design and methods**, 4th edition, Thousand Oaks, California, Sage Publications Inc.

Appendices

Appendix 1: A matrix of my thoughts on different types of research into reading

Type of research	Children			Adults	
	Acquiring reading skills	Developing reading skills	Struggling with reading	Competent readers	Struggling with reading
Research in a laboratory or experimental setting	Developing and elucidating theories of reading acquisition	Developing and elucidating theories of reading	Elucidating the theories of acquisition by reference to the difficulties	Developing and elucidating theories about reading	Elucidating the theories about reading by reference to the difficulties
Research in a real life setting	Developing theory and practice about reading acquisition	Developing theory and practice about reading	Elucidating the theories of acquisition and development by reference to the difficulties	Developing and elucidating theory and practice about reading	Developing and elucidating theory and practice about reading
Studying subjects as groups	Developing and elucidating theories of reading by studying different factors and combinations of effects.				
Studying individuals and their differences	Developing policy and practice by reference to individuals and their differential progress. Exploring the phenomenology of reading.				

Appendix 2: Application for ethical clearance for the research

Human participants and materials ethics committee (HPMEC) Proforma

Please complete and send to:

John Oates (j.m.oates@open.ac.uk), Chair,
Human Participants Materials Ethics Committee (HPMEC)
Centre for Childhood Development and Learning (CHDL),
Briggs, Walton Hall, Milton Keynes
Also send a copy to Research-ethics@open.ac.uk

If you have any queries before you fill in this form please look at the
Research Ethics (intranet) web site:

<http://intranet.open.ac.uk/research/ethics/>

Title of project

A short, descriptive title.

**Research towards a Doctorate in Education: Evaluating the
effectiveness of strategies used to support adults' reading skills**

Schedule

Time frame for the research and its data collection phase(s).

**Pilot phase: October 2007 to March 2008 – small scale data
collection**

**Main research project: April 2008 to March 2009 – with most data
collected by December 2008**

Abstract

A summary of the main points of the research, understandable by a
non-specialist.

1. Selecting, designing and evaluating a specific range of
strategies to support adults' reading skills; working on
suitable formats, accessibility and branding of the resources I
adapt and develop
2. Exploring other factors involved in success with these
strategies, e.g.
 - individual differences in teaching and learning styles

- using a diagnostic approach in planning and supporting learning
 - the underlying effect of intensive one-to-one support in combination with methods used
3. Articulating what counts as success in improving an adult's reading skills and how we measure this.
 4. Exploring the validity and reliability of different ways of making such measurements (with different assessment tools)

Source(s) of funding

Details of the external or internal funding body (e.g. ESRC, MRC).

The research is self-financed.

Justification for research

What contribution to knowledge, policy, practice, and people's lives the research will make?

This research aims to extend knowledge and practice on adult literacy, given this is a grossly under-researched field in comparison to children's literacy. On a micro level, I hope to enhance the reading skills and learning capacity of individuals involved in the project. I also plan to develop tools of use to practitioners and make recommendations to the profession on the best strategies and approaches.

Investigators

Give names and units of all persons involved in the collection and handling of individual data. Please name one person as Principal Investigator (PI).

Principal Investigator: Susan Partridge

A number of other practitioner researchers will work collaboratively as needed in the main phase of research. Though names not currently available (selection will take place in March 2008), they will cover a range of post-16 education and training establishments in the West and East Midlands.

Published ethical guidelines to be followed

For example: BERA, BPS, BSA (see Research Ethics web site for more information).

BERA

Location(s) of data collection

Give details of where and when data will be collected. If on private, corporate or institutional premises, indicate what approvals are gained/required.

In a range of post-16 education and training establishments in the West and East Midlands.

Three letters of consent have been drafted for:

- learners
- practitioner research collaborators
- the whole organisation

Participants

Give details of the population from which you will be sampling and how this sampling will be done.

For the pilot study which will involve 4 adult learners, sampling and selection will be based on availability, interest in taking part and an appropriate level of current reading skills.

The main study will use up to 12 practitioner researchers each working with one or two of their existing learners (12-24 in total) plus up to 6 more learners working with the principal investigator.

Sampling and selection will again be based interest in taking part and an appropriate level of current reading skills, subject to practical constraints of availability.

I will ensure, through thorough briefings, that collaborator researchers know they should follow protocols laid down by the principal researcher and adhere to the same high standards of ethical conduct. The consent form briefly outlines this commitment.

Recruitment procedures

How will you identify and approach potential participants?

I am reliant on colleagues working in educational establishments to identify and recruit relevant participants, based on guidelines I supply.

Consent

Give details of how informed consent will be gained and attach copies of information sheet(s) and consent form(s). Give details of how participants can withdraw consent and what will happen to their data in such a case (see the Research Ethics web site for an advisory document).

For learners:

Consent will be by signature of a letter providing relevant information about the research. Because the learners will have limited reading skills, then a very simple format has been provided, and guidance on informed consent will be given orally (please see attached sample).

Particular care will be taken to ensure that learner participants fully understand what they are signing up to do and do not experience any degree of coercion. Checks will be made that they know they can decline to take part without jeopardising their status as a student of the host organisation; that they know they can withdraw at any time on the same terms; that they know the full range of people they can appeal to for support if there is any problem with their involvement in the research.

Withdrawal of consent will be by personal contact with their existing tutor (named in advance) or the principal investigator or her research supervisor. Their data will be removed from the sample.

For practitioner research collaborators and host organisations:

Consent will be by signature of a letter providing relevant information about the research (see attached sample).

Particular care will be taken to ensure that practitioner research collaborators and host organisations fully understand what they are signing up to do. Checks will be made that they know they can decline to take part without jeopardising their professional relationship with the principal researcher; that they know they can withdraw at any time on the same terms; that they know the full range of people they can appeal to for support if there is any problem with their involvement in the research. In particular they will be informed of the risks and benefits involved in undertaking collaborative research.

Withdrawal of consent will be by personal contact with the principal investigator or her research supervisor. Their data will be removed from the sample.

Methodology

Outline the method(s) that will be employed to collect and analyse data.

Data collection will be by completion of assessment tasks, Dictaphone records and paper records of interventions, as well as attitude surveys and evaluation activities.
Analysis will be as appropriate to qualitative and quantitative data, using discourse analysis, factor analysis, analysis of variance, etc., using SPSS statistics software as necessary.

Data Protection

Give details of registration of the project under the DP Act and the procedures to be followed re: storage and disposal of data to comply with the Act.

The research project will follow the Open University Data Protection code of practice applying to both manual and computer records.

Recompense to participants

Normally, recompense is only given for expenses and inconvenience, otherwise it might be seen as coercion/inducement to participate.
Give details of any recompense to participants.

No recompense

Deception

Give details of the withholding of any information from participants, or misrepresentation or other deception that is an integral part of the research. Any such deception should be fully justified.

No information will knowingly be withheld from any participant.

Risks

Detail any foreseen risks to participants or researchers and steps that will be taken to minimise/counter these.

I will ascertain and adhere to any health and safety policies of the organisations hosting the research. I hold professional indemnity and public liability insurance and have recent enhanced CRB clearance.

I will undertake a risk assessment at each stage of the project for risks relating to:

- personal safety
- lone working
- working on a one-to-one basis with participants
- possible conflict of interests and/or complaints from host organisations, practitioner researchers and participants

I will discuss with host organisations and practitioner researchers the risks and benefits of undertaking collaborative research and share my risk assessment with them.

Debriefing

Give details of how information will be given to participants after data collection to inform them of the purpose of their participation and the research more broadly.

De-briefing of learners will be done individually by the principal investigator and/or the other practitioner researchers, and contact maintained after the project if learners wish to stay informed about future developments.

I will hold regular de-briefings meetings with the other practitioner researchers both during and after the data collection phase, with the purpose of checking of findings, reviewing any issues that arise and keeping them informed of the use their work will be put to.

Declaration

Declare here that the research will conform to the above protocol and that any significant changes or new issues will be raised with the HPMEC before they are implemented. A Final Report form will need to be filled in once the research has ended.

Signature(s)

Susan Partridge

(this can be the typed name(s) of investigator(s) if electronic copy is submitted (which is preferred))

Date

1 October 2007

**Proposed date for
final report**

May 2010

Appendix 3: Assessment tools and their sources

Phase	Tool	Source
Initial assessment phase	<p>Structured interview</p> <p>WRAT 4 Word reading (blue)</p> <p>Turner Nonword reading test</p> <p>Irregular word list</p> <p>Long regular word list</p> <p>Passage reading for miscue analysis</p> <p>Speed of passage reading</p> <p>Self rating on a scale of 1 to 10</p>	<p>Much modified version of Klein (2003, pp. 22-25)</p> <p>Wilkinson and Robertson (2006)</p> <p>Turner (2003), Dyslexia Action</p> <p>Modified from Nelson (1977), quoted in Klein (2003, pp. 116-117)</p> <p>Passages from Klein (2003, pp. 100-115) plus some original ones, compared for readability equivalence</p> <p>Miscue analysis based on Goodman (1967) using coding from Klein (2003, pp. 32-42)</p> <p>Simple calculation of words per minute</p> <p>Original</p>
Summative assessment phase	<p>WRAT 4 word reading (green)</p> <p>Passage reading for miscue analysis</p> <p>Speed of passage reading</p> <p>Self rating on a scale of 1 to 10</p>	<p>Wilkinson and Robertson (2006)</p> <p>Passages from Klein (2003, pp. 100-115) plus some original ones. Miscue analysis as above</p> <p>Simple calculation of words per minute</p> <p>Original</p>

Appendix 4: Initial interview proforma

SPEC Ltd: Sue Partridge, Ed D research project

Initial Interview

Learner's Name: _____ **Today's Date:** _____

Date of birth: _____ **Gender:** _____

Learning institution: _____

Course (level and subject) _____

To what ethnic group do you consider you belong? (optional) _____

Do you consider yourself to have a disability? If so please specify what (optional) _____

Contact details for any follow up to the research (optional) _____

What are your overall educational aims?

How do you rate your reading now on a scale of 1 to 10 (10 is best)?

How do you think your reading skill compares with other people you know?

What would you really like to read?

What approach do you think might help?

Early experience of reading

Comments

	Remembers early experience of reading at home as a child (include singing nursery rhymes, picture books etc.)	
	Remembers having help from parents/carers in learning to read (related to school homework or other)	
	Remembers a particular breakthrough when reading became easier (please specify what and when)	
	Remembers disruptions in childhood that might have affected reading development, e.g. speech therapy, illness, hearing loss, eyesight issues, moving schools (please specify what and at what age)	
	Assessment of dyslexia or any other learning difficulty as a child (specify at what age)	

Schooling – primary

Comments

	problems learning to read	
	second language interference	
	received extra help in reading	
	remembers learning sight words	
	remembers covering phonics	
	remembers pleasure in reading (specify what)	
	what helped most with reading	

	what was the worst barrier	
--	----------------------------	--

Schooling – secondary

	problems recognised by school	
	extra help (specify what actually happened about reading)	
	remembers reading around a particular interest/subject (specify)	
	remembers a particular breakthrough with reading/study	

Reading now

	approximate level (please specify core curriculum level and/or type of material commonly read):	
	needs to re-read frequently	
	problems recognising words by sight	
	problems working out words by sound	
	problems tracking print	
	print 'dances', blurs or irritates eyes	
	preferred font size, paper colour	
	problems reading aloud	

	problems with recall of what you've read	
	problems with comprehension and meaning	
	what work have you done on reading as an adult?	
	what approach seemed to work best?	

Approaches currently used by learner:

Have you been diagnosed dyslexic? If so, when and what did you find out?

Do you have any other disabilities or medical issues that may impact on your learning?

Other relevant information:

Appendix 5: Evaluation tools

Tool	When used	Comment
Self rating on a scale of 1 to 10	By learner during initial and summative assessment	Very simple and subjective measure of change, also intended as a motivator for making progress
Session reports in a preset format	By researcher for each session, including in the assessment phases	Detailed qualitative evidence of progress and learning taking place
Rating of each strategy used on a scale of 1 to 4, by researcher and learner, where 1 is excellent (great), 2 is good, 3 is satisfactory (OK) and 4 is poor.	At the end of the intervention phase	Simple and subjective measure of effectiveness of tools and approaches
Evaluative questionnaire	By learner and researcher at the end of the intervention phase after a minimum of 5 sessions	Qualitative evidence of effectiveness of the process and strategies
Observation and DVD recordings	A minimum of one session recorded or observed for each researcher	Partly for quality control, partly as evidence of the effectiveness of strategies

Appendix 6: Evaluation sheet (learner)

Name of learner: _____

Date: _____

This is what I thought worked best:

This is what didn't work and why:

This is what I tried at home/ at work / in my class:

This is what I still want to work on:

This is what I feel now about my reading skills:

Appendix 7: Evaluation sheet (tutor)

Name of learner: _____ Date: _____

Name of tutor: _____

This is what I thought worked best and why:

This is what didn't work and why:

This is how I made the most of my learner's strengths (thinking style, learning preference, processing strengths, interests, character qualities, etc.):

This is what I think is the impact on my learner's course/work/life skills (please include any comments from course tutors):

This is what I feel now about my ability to support reading skills:

Appendix 8: Feedback form: Rating of strategies used

Name of learner:_____

Date:_____

Tutor/learner rating (please complete one from your learner and one from your point of view)

Grade:		1	2	3	4	Comment
		Great	Good	OK	Poor	
Method we used	Date					

Appendix 9: Summary of intervention tools

Reading component	Guidance sheet	Rationale	Idea based on which source
Alphabetics	A1: Enhanced Look, Cover, Write, Check (LCWC)	Multisensory approach linking reading and spelling	Millar and Klein (2002)
	A2: Rime prompting	Aid to word recognition based on bigger elements than phonemes	Moseley and Poole (2001)
	A3: Onset rime training	There is evidence that this approach can be usefully taught to adults	Bruck (1992)
Comprehension	C1: SQ3R	To develop active strategies to aid recall and understanding	Glover <i>et al.</i> (1990)
	C2: Strategic questioning	Focus on one element of the metacognitive strategy used in C1	Fordham (2006)
Fluency	F1: Aids for tracking print	Practical devices to help the reader keep their place	Various commercial and homemade aids plus ideas based on Ron Cole's "SuperReading TM " course, Cole (2010) Burton (2007a and b), McShane (2003) and Topping (2001)
	F2: Paired reading	Support to assist in confidence needed for fluency	

Reading component	Guidance sheet	Rationale	Idea based on which source
Vocabulary	V1: Structured vocabulary	Separating out work on vocabulary, word recognition and meaning from reading fluency	Mackan (personal communication, 2007)
	V2: Vocabulary development	More on making words memorable	Ambe (2007)

Appendices 10 - 20: Guidance sheets for intervention phase

Appendix 10: A1: Enhanced Look, Cover, Write, Check

Rationale

- The Look, Cover, Write, Check (LCWC) method is usually applied to spelling, but works well for reading. It is the routine for practice that is a key element for this strategy.
- Research shows that working on spelling enhances reading skills.
- The contrary does not always apply (more reading does not always mean better spelling)

Method

- Take a target word and analyse its components (syllables, sounds, patterns, words within words, etc.).
- Use colour and highlight shape to make the word look more memorable.
- Exaggerate the pronunciation, if this helps.
- Devise a mnemonic, if this helps.
- Emphasise the SAY at each stage of the process to make explicit the reading element. The routine is as follows:
 - Look at the word and **say** it
 - Cover the word, see it in your mind's eye and **say** it
 - Keep the word covered and write it. **Say** it as you write.
 - Check the word you wrote against the original and systematically correct any errors
 - **Say** the word again and visualise seeing it in a piece of reading material
 - Repeat this routine three or four times per week
 - Tutor tests learning at the end of the week, for spelling accuracy.
 - Tutor checks if the learner can read this and similar sounding/looking words (e.g. if they learned 'train', check they can read train, drain, plain, explain, mountain, etc. – see how many extra words they can read)

Measure the impact

- Check if the learner is more confident in word attack skills.
- Check if the learner has extended the range of sight vocabulary.

Resources needed: Paper/card, coloured pens/highlighters

Source: Extension of LCWC to reading, based on Klein and Millar (1990) plus an original idea

Appendix 11: A2: Rime prompting

Rationale

- As an aid to word recognition skills.
- A finding from research that some dyslexic adults with higher level reading skills are good at separating out sounds in a word (onset - rime awareness)
 - onset = the first sound in a word or syllable
 - rime = the subsequent sound.
 - e.g. "show" = sh (onset) + ow (rime)
 - e.g. "adventure" = a +d, v +en, t +ure (3 onset-rime pairs).
- Research has also shown that it can be more useful than whole word prompting.

Method

- Do some basic preparation with a learner so they know what you are going to do: i.e. give them some examples of how words split into onset and rime (see sheet overleaf with some examples plus make up your own with some relevant words).
- When hearing a learner read aloud and they make a mistake or cannot attempt a word, instead of just telling them the word or making them struggle to sound it out:
 - Tell them the word
 - Write it on a piece of card or piece of paper
 - Highlight the rime in a single syllable word
 - For multi-syllabic words, split into syllables and highlight each rime
 - Work together on saying the rimes, syllables and stringing the syllables together
 - Reinforce the look as well as the sound of word components.
- You then have a choice to either:
 - Leave it at that
 - Use some or all of the target words for the enhanced LCWC method (A1)
 - Use some or all of the target words for vocabulary development (V1)

Measure the impact

- See if the learner becomes more confident with sight-sound links.
- See if the learner can use onset rime analysis as a word attack skill.

- See if the learner remembers the target word and so extends vocabulary.

Resources needed

- Reading material, card and highlighter pens.

Some examples for illustrating **onset** and **rime**

h / **and**

k / **ids**

l / **ove**

l / **ife**

m / **oth**

c **on** // **c** **ern**

(notice the different sound made by the two onset letters c)

fr / **iend**

a complex letter pattern but still just one rime

pr / **eg** // **n** / **ant**

ch / **ild** // **l** / **en**

Source: Adapted from ideas in Moseley and Poole (2001)

Appendix 12: A3: Onset-rime training

Rationale

- A finding from research that some dyslexic adults with higher level reading skills are good at separating out sounds in a word (onset - rime awareness)
 - onset = the first sound in a word or syllable
 - rime = the subsequent sound.
 - e.g. "show" = sh (onset) + ow (rime)
 - e.g. "adventure" = a +d, v +en, t +ure (3 onset-rime pairs)
- This could be a useful skill in word analysis, but less complex than strictly phonemic analysis (dyslexic adults are found to still struggle with phoneme awareness, and even "normal" readers show less awareness at this level of technicality)
- To see if knowledge of onset and rime can be trained.

Method

1. Take a set of words familiar to a learner by sight, choosing levels of complexity (single syllables to start with, then multisyllabic words).
2. With multisyllabic words, help the learner to split them into syllables first.
3. Explain the terminology of onset and rime (N.B. rime is not the same as rhyme).
4. Ask the learner to remove the rime, e.g. "what is 'show' without 'ow'?"
5. Ask the learner to remove the onset, e.g. "what is 'think' without 'th'?"
6. Try these tasks orally to begin with, then also try on paper (auditory followed by visual).
7. See which is easier for your learner (onset or rime deletion, auditory or visual).
8. Encourage your learner to try this sort of analysis when they get stuck on words when reading.

Measure the impact

- See if the learner becomes more confident with sight-sound links.
- See if the learner can use onset rime analysis as a word attack skill.

Resources needed

- A set of familiar words for analysis

Source: Based on ideas in Bruck (1992)

Appendix 13: C1: SQ3R

Survey, Question, Read, Recite, Review

Rationale

Preparation and review of reading is likely to make recall and comprehension more thorough

Method

SURVEY: look at the title, contents, introduction, headings, first paragraph, any illustrations, charts. Read the first paragraph and then the last paragraph. Highlight any key points. Try to work out how the author got from the beginning to the end of the piece. Ask yourself some strategic questions about why you are reading this piece and what you already know.

- **QUESTION:** Ask yourself questions as you read. Convert headings and key questions into sentences. Ask yourself what is important in what you are reading.
- **READ (and reflect) :** be prepared to read more than once, asking questions. Vary your approach and change the tempo. Stop and think at regular intervals as you read.
- **RECITE:** Stop reading and say back to yourself some of the main points. Use all your senses – **SEE** the printed word (visual), **SAY** what you are learning (motor), **HEAR** what you say (auditory), **WRITE** key words or **DRAW** a diagram (visual and motor)
- **REVIEW:** Try to go through what you have read and see if you can recall the main points. Wait 12-24 hours and then review again.

N.B. you can make a book mark for this and Strategic questioning (see overleaf). Laminate or print on card.

Measure the impact

- Check if the learner is more confident in tackling reading material and retaining the content.
- Check if the learner has enhanced their comprehension.

Resources needed

Reading material, coloured pens/highlighters, notebook

Appendix 14: C2: Strategic reading

Rationale

- Questioning that takes place before and during reading as well as afterwards is likely to aid comprehension.
- It enables reader to think about why they are reading and whether they are reading effectively.
- Based on research into meta-cognition (knowing more about the process of reading and the thinking that goes alongside reading).
- N.B. this strategy can be used as a sub-technique within the SQ3R method

Method

- Tutor needs to look at a text in advance and frame some possible questions (though you can also be spontaneous).
- Think of questions and discussion points to raise before reading or directly after a learner has read the title.
- Try for a range of different open-ended questions and prompts, e.g.
 - What do you know about...?
 - Where on the first page can you find a definition of...?
 - Look at the first page and list all the...
 - What do...have in common?
 - Why do you think...? (covering inference as well as fact)
- Encourage your learner to ask him/herself questions before beginning reading, e.g.
 - What is the purpose of reading this?
 - What do I already know that will help me?
 - What aspects am I going to concentrate on?
 - What do I need to look out for?
 - How will I record and recall any information that I read?

N.B. you can make a book mark for this and SQ3R (see overleaf).

Laminate or print on card (N.B. if you back the two sheets it will make two bookmarks when cut down the middle).

Measure the impact

- See if your learner becomes more confident when approaching a new text.
- See if your learner has better comprehension and recall.
- See if you learner can be more autonomous and thoughtful when reading.

Resources needed Suitable text, bookmark with guidance notes

Source: Based on ideas in Fordham (2006)

Appendix 15: Bookmark for guidance sheets C1 and C2

SQ3R

Reading for a strategic purpose

Preparing before you read a piece of text for information is likely to make the task easier.

What is the purpose of reading this?

What do I already know that will help me?

What aspects am I going to concentrate on?

What do I need to look out for?

How will I record and recall any information that I read?

Decide if you are looking for something definite....

...use **SCANNING**



or just looking to get an overall impression....



...use **SKIMMING**

Reading with purpose

SQ3R is a useful technique that can be used with most kinds of reading. It stands for:

Survey, Question, Read, Recall and Review.

- **Survey:** quickly look for basic information using contents listing, index, main headings, etc.

- **Question:** note down questions you want answered to keep your reading active

- **Read:** varying your reading style and speed, identify and read the section which will answer your questions; make brief notes if this helps

- **Recall:** try to answer your questions without looking at the notes or reading material

- **Review:** look back over the text to check if your information is accurate



Appendix 16: F1: aids for tracking print

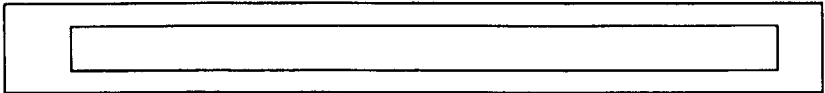
Rationale

- The idea of this technique is to encourage fluency and confidence when reading, by making the mechanics of reading a little more comfortable.
- Particularly if the learner has visual tracking problems, mechanical disruptions to fluency from losing one's place can affect speed and comprehension.

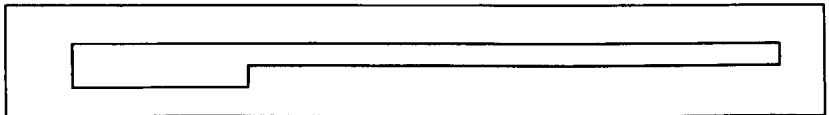
Method

- If your learner already has had a colorimeter assessment or expresses a preference for a coloured paper/overlay, encourage its use.
- Try out a **range** of the following learning aids/strategies and with your learner **evaluate which works best** (you do not have to use them all):

- Make a device that masks all but the current line:



- Make a device that masks all but the current line plus the first part of the next line:



N.B. It is quite tricky to match the size of the slot to the typical size of print

- Use a device like the [] to mark the starts of new lines.
- Use a line marking device (a ruler or a black line marked on a strip of coloured overlay – there are commercially available devices as well as custom made ones)
- Experiment with encouraging your learner to focus on tracking using column widths of increasing size (two words, three words, five words) to try to raise speed and fluency.
- Experiment with using the finger or a pencil or a coffee shop wooden spatula to point to words, reassuring your learner that this is not childish if it works.

- When using on-screen text, experiment with the use of the cursor key as an active line marker. Position it at the start of the line to be read and encourage your learner to press the down arrow just as s/he comes towards the end of the line. This will require practice to get the timing just right so the cursor is set at the start of the next line as the eye drifts over.

Measure the impact

- Check if the learner is more confident in tackling reading material
- Check on whether the learner becomes better at maintaining fluency and expression.
- Check if the learner has enhanced their comprehension.

Resources needed

Reading material in a variety of formats and column widths, coloured overlays and/or coloured paper, tracking aids, ICT support as available.

Sources: based on various commercially available devices for tracking print and an idea covered in more detail in Ron Cole's SuperReading™ programme, <http://www.alchemy.name/html/superreading.html>

Appendix 17: F2: Paired reading

N.B. this version involves tutor and learner reading simultaneously, not in turn.

Rationale

- The idea of this technique is to encourage fluency and confidence when reading.
- The idea is to stop the disruption to flow caused by a learner struggling to decode words or waiting to be corrected.
- This approach can bring back the pleasure in reading for pleasure.

Method

- Choose a text that the learner is interested in reading (for pleasure or information).
- Although it is best if the text is at a level appropriate to the learner's assessed needs, this method can be used to assist reading a harder text that the reader urgently needs to access.
- Make sure that you can both see the text comfortably, or have two copies.
- Start reading aloud together.
- Make sure you match your speed to what the learner can cope with so you don't leave them behind or leave them frustrated.
- Model fluency and good expression.
- If the learner stumbles over a word, keep reading and encourage them to continue without pause. If they lose their place, wait for them to catch up.
- If you sense that the learner is reading confidently and accurately, fade your voice to a quieter volume, but be prepared to fade back in if they falter.
- Warn your learner that you may fade out altogether if they continue to read well.
- With a beginner reader, be prepared to pair read the same text several times so they also gain fluency from repetition and familiarity.

Measure the impact

- Check if the learner is more confident in tackling reading material.
- Check on whether the learner becomes better at maintaining fluency and expression.
- Check if the learner has enhanced their comprehension.

Source: various, including Burton (2007a and b), McShane (2003) and the work of Keith Topping (2001), www.dundee.ac.uk

Appendix 18: V1: Structured vocabulary work

Rationale

- Separates out work on specific vocabulary (word focus) from reading of a text, so maintaining the flow and enjoyment of reading
- Supportive strategy, anticipating issues of vocabulary and meaning

Method

- Select text
- Ask learner to identify words s/he struggles to read
- Select words that are useful for future reading (likely to come up in more than one text, relevant to learner's interests, etc.)
- Insert words into the vocabulary frame (see overleaf)
- Record both meanings and memorable features
- Ask learner to revise words and their meanings
- N.B. it is possible to supplement this practice with the enhanced LCWC method (A1) if you want them to be even more systematic
- Read the target text
- You might choose to repeat the reading of the text again at the same or a subsequent session to really reinforce the newly acquired vocabulary.

Measure the impact

- Check fluency (speed and error levels) when reading the target text.
- Check enjoyment levels when reading
- Check comprehension levels
- Check for a greater curiosity about words and their meanings.

Resources needed

Target texts

Grid to record words and their meanings

Source: Based on an idea used by Preeti Mackan at Leicester College (personal communication 2007)

Appendix 19: Vocabulary frame for use with V1

Name: _____ Date: _____

Word	Meaning + what makes it memorable
e.g. persuade	change someone's mind (Sue tried to persuade me to read more!)

Appendix 20: V2: Vocabulary development

Rationale

- A practical approach for vocabulary extension, first used with reluctant adolescent readers
- Separates out work on specific vocabulary (word focus) from reading of a text, so maintaining the flow and enjoyment of reading
- Supportive strategy, anticipating issues of vocabulary and meaning.

Method

1. Find a suitable text to read.
2. Select 3 to 5 words likely to be difficult, but useful and relevant to the learner.
3. Devise sentences using each word, but in an easier context than the target text.
4. Write onto strips of card.
5. Read together and discuss meaning.
6. Discuss other ways to make the word memorable – shape, pattern, etc.
7. When all the key words are covered, read the target text.
8. You might choose to repeat the reading of the text again at the same or a subsequent session to really reinforce the newly acquired vocabulary

Options:

9. Ask the learner to make up more sentences.
10. Link with other strategies for word analysis

Measure the impact

- Check fluency (speed and error levels) when reading the target text.
- Check enjoyment levels when reading
- Check comprehension levels
- Check for a greater curiosity about words and their meanings.

Resources needed

Target texts

Strips of card

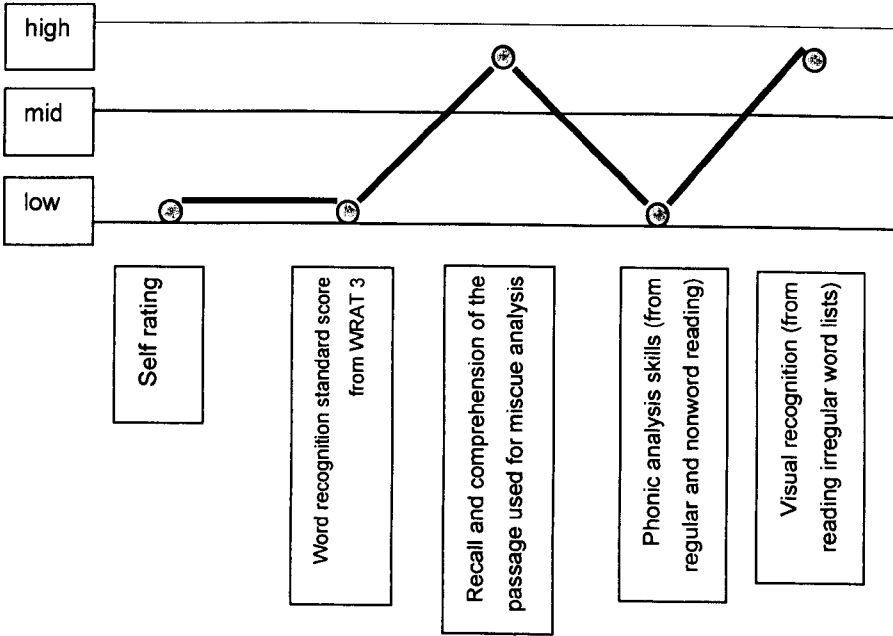
Scissors

Source: Based on ideas in Ambe (2007)

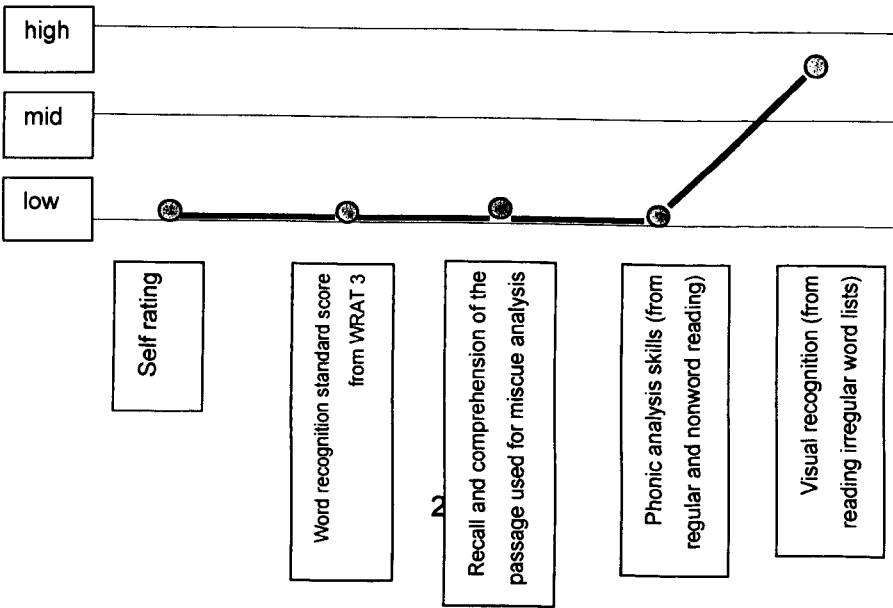
**Appendix 21: Profile analysis, based on Besser et al. (2004),
and results for learners in the initial study**

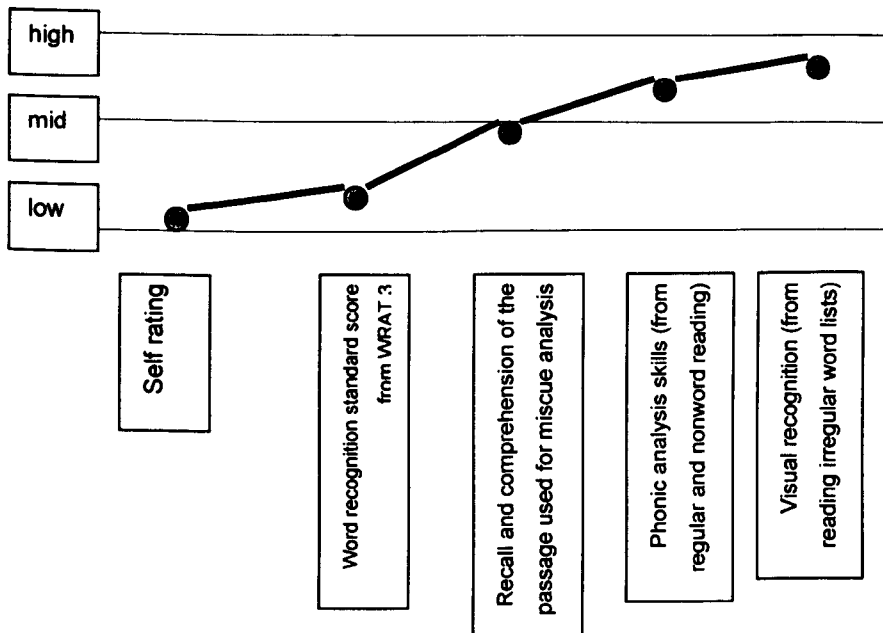
Using their analogy of high, mid and low scores, the learners in this initial study may be characterised as follows:

Profile of learner A's initial assessment levels



Profile of learner B's initial assessment levels



Profile of Learner C's initial assessment levels

The visual impact of these charts is an aid to characterising the three current very different learners, given that it is hard to make direct comparisons between standardised tests (offering a full range of assessed levels against a normal population) and non-standardised tests where, as in the case of miscue analysis, the level of the target passage for reading, is often selected by the assessor. However, the distinctions between high, mid and low levels are relatively arbitrary and subjective.

The profile seems to indicate that Learner A has a mixed range of positive reading skills, somewhat belied by his very low score on a standardised test. There is potential to work on strengths in comprehension and understanding, along with extending his reading vocabulary using visual strategies. Phonological awareness training is less likely to be helpful at this stage in his adult life. Learner A may

have simply not been taught phonics as a child, but his low score on regular and nonword recognition tests may also indicate an auditory processing difficulty (Klein 2003).

Learner B has an overall low profile to match her very low score on the WRAT3 test, and the low starting point of someone who has left it till her late 40s to seek help with literacy skills. However, there is a glimmer of hope in her visual recognition skills, albeit given a very limited vocabulary.

Learner C has an interesting profile. Despite performing well below average on the standardised test, she has a capability for phonic analysis and some potential to extend her vocabulary via sight recognition. A multi-sensory word attack programme may help her. However the greatest immediate need is to enhance her recall and comprehension skills. She reads, apparently, at the level of a GCE 'A' level student when attempting textual reading, yet she has low self esteem and reads with little enjoyment or understanding. She also has the greatest potential to influence the reading capability of the next generation, if she can be armed with some strategies to help her children and so has the motivation to improve her own skills.

Results from the initial study*Differences between pre- and post-intervention scores for Learner A.*

Learner A	Initial assessment	Post-Intervention assessment	Difference
WRAT3 word recognition standard score	56	67	11
Passage reading:			
Reading speed (wpm)	15	28	13
% words correct	91	90	-1
% grammatical miscues corrected	63	64	1
% attempt at phonetic analysis	3	6	3
% unprompted recall	60	80	20
% recall on questioning	100	86	-14
Self rating out of 10	4	6	2

Learner A showed improvements in all but 2 of the measures; a 1% decrease in accuracy during passage reading and a dip from perfect recall on questioning. A notable gain for learner A was an increase in speed of reading, accounted for by fewer pauses to have a conversation about aspects of the reading task. He now knows that maintaining fluency and concentration is important when reading. He read the equivalent of 4 extra words correctly in the WRAT3 test, nevertheless only raising his attainment to the 1st percentile.

Differences between pre- and post-intervention scores for Learner B.

Learner B	Initial assessment	Post- intervention assessment	Difference
WRAT3 word recognition standard score	49	49	0
Passage reading:			
Reading speed (wpm)	46	86	40
% words correct	85	87	2
% grammatical miscues corrected	11	32	21
% attempt at phonetic analysis	0	1	1
% unprompted recall	40	50	10
% recall on questioning	10	57	47
Self rating out of 10	2	5	3

Learner B also increased her fluency in reading, and made a remarkable gain in recall and comprehension. However, performance on WRAT 3 was unchanged from a very low overall score. In talking to and observing learner B during sessions and after the final assessment, it is clear to me that she has a much clearer concept of the purpose of reading (to gain meaning) and she has also started noticing textual features (punctuation) as she reads. Learner B has the potential to develop beyond mechanical reading, given further intensive support.

Differences between pre- and post-intervention scores for Learner C.

Learner C	Initial assessment	Post-intervention assessment	Difference
WRAT3 word recognition standard score	74	77	3
Passage reading:			
Reading speed (wpm)	54	46	-8
% words correct	94	92	-2
% grammatical miscues corrected	53	25	-28
% attempt at phonetic analysis	52	38	-14
% unprompted recall	50	40	-10
% recall on questioning	54	44	-10
Self rating out of 10	4	9	5

Learner C's results were a huge disappointment to me, despite the sessions being a big boost to her own perception of skills and her self-confidence. She made a non-significant gain on the WRAT 3 retest (the equivalent of one extra word read correctly). Her performance on passage reading was slower, less accurate and resulted in much poorer recall and comprehension. In analysing her reading of extended text in more detail, it became clear that Learner C lost the thread of meaning during the second paragraph. On discussion it emerged that C felt disengaged with the topic of the text (hooliganism in football), reinforcing the finding by Fink (1996) that a reader's motivation and interest in the subject she reads has a marked effect on performance.

Appendix 22: Letter to the Guardian newspaper, April 2009

There is a real danger that opinion will become polarised over whether to teach phonics to adults who struggle with reading, just as it has in the schools sector. There are two main reasons why the debate has to be kept as open as possible and not subject to rigid dogmatism:

1. Adults who struggle with reading really are a different proposition from children making a first attempt at breaking the English reading code. Adults bring a wealth of different experiences, urgent practical needs (how to read the job adverts if you have recently been made redundant) and different ways of thinking that mean different strategies work better for different people. It is worth remembering that Maxine Burton, leading on the original NRDC research, advocates phonics only as part of a "much broader curriculum.". The study also did some really interesting work on fluency in reading, with structured opportunities to practise reading aloud.

2. There is a pragmatic issue here. To teach phonics well requires time, routine and well trained tutors (after all, children get up to an hour a day on phonics). What college or adult education service, strapped for cash in the current funding crisis, is going to opt for intensive and lengthy courses on phonics? It is no coincidence that the very worthwhile Toe by Toe initiative, flagged up in Eric Allison's comment column, relies on the good will of volunteer mentors making daily contact with inmates in their cells. There is a danger that even if adequate resources are committed to a trial of systematic use of phonics then this will crowd out other useful approaches.

I am not just an academic: I am a practitioner researcher (and a teacher trainer and Ofsted inspector) currently exploring a range of strategies with adult readers based on four components of reading - word analysis skills (which includes phonics), vocabulary development, fluency and comprehension. I am keeping my options open.

Sue Partridge Director, SPEC Ltd.

Published in an edited form (Partridge 2009)

Appendix 23: Some guidelines for interpreting reading assessments for adults: Sue Partridge, September 2009

It is worth bearing in mind the possible components for successful reading when seeking to elucidate what is happening with an adult's reading skills through observation and assessment. I have chosen to base these guidelines on 4 components identified by Kruidenier (2002), in the context of American adult literacy provision, namely:

- **alphabetics** (though I prefer to call this **word attack skills**). This includes phonic decoding and visual word recognition skills as well as aspects of working out a word from context and meaning.
- **fluency** relating to speed and expression when reading without having an adverse effect on accuracy.
- **vocabulary**, which is the measure of the number and range of words and their meanings that a reader can access instantly, or nearly instantly, when reading.
- **comprehension**, which is a complex mix of recall and understanding. The measurement of comprehension is affected by whether the reader can refer to the text or not, is asked to relate the gist or the detail of a text and whether they are expected to make inferences. Comprehension is assessed through questions, through multiple choice or cloze procedures or through an open-ended prompt to say what they have read about.

No one assessment tool can give adequate insights into each of these, so a skilled assessor will always be looking for interactions between different assessment results, combined with naturalistic observation of what happens when an adult reads and of course

asking our learner to tell us what works best for them or causes particular difficulties. We also need to be very aware of the context of reading, whether it is real or contrived, single word or text, reading for pleasure or information, high interest, neutral in content or out of the learner's comfort zone. When assessing reading we often seek to work through analysing errors so inevitably we will go beyond a reader's "normal" level and approaches so as to generate such errors. We also need to recognise, characterise and value the words they read correctly.

Assessments fall into two groups, the single word reading tests (including nonword tests) and the reading of extended text. To some extent, different processes are used for reading single words and text. Many of the theories of reading acquisition and development, especially those tested in an experimental context, only relate to single word reading. The picture is much more complex, particularly for an adult with a chequered reading history, when reading text.

Another aspect important in interpreting reading assessments relates to whether the reader reads aloud or silently. Once more these are different skills, as reading aloud needs confidence, access to the correct pronunciation and articulation skills. When assessing comprehension and recall it is certainly worth checking the difference between performance on reading aloud and reading silently. To be completely thorough an assessor might also want to check out listening comprehension (where the assessor reads the text aloud) to compare the relative impact of word attack skills, vocabulary, fluency and articulation on understanding and recall of a text.

Here are some notes on possible issues with the interpretation of the assessments commonly used by Dip. ADDS assessors. This highlights the choices an assessor needs to make between multiple interpretations. The first three relate specifically to **word attack skills** and to some extent **vocabulary**.

Nonword decoding test (Turner 2003)

- ask yourself what a skilled reader might score: answer 100% correct.
- what might prevent this?
 - auditory processing difficulties, leading to missing, added, mistaken or mis-sequenced sounds or problems segmenting and blending sounds effectively;
 - unfamiliarity with phonic analysis, through not having been taught the patterns or the skills of segmenting and blending sounds;
 - lack of comfort with reading words out of context leading to an attempt to rationalise the items into real words;
 - visual interference leading to errors of sequence, letter orientation or small visual slips within words;
 - issues with working memory (mainly auditory) in tackling the multisyllabic words that come towards the end of the test;
 - or any combination of these.

Long regular word list (Nelson 1977)

- ask yourself what a skilled reader might score: answer 100% correct.

- **what might prevent this?**
 - auditory processing difficulties, leading to missing, added, mistaken or mis-sequenced sounds or problems segmenting and blending sounds effectively;
 - unfamiliarity with phonic analysis, through not having been taught the patterns or the skills of segmenting and blending sounds;
 - visual interference leading to errors of sequence, letter orientation or small visual slips within words;
 - issues with working memory (mainly auditory) in tackling multisyllabic words;
 - or any combination of these.
- **N.B. there can be a false positive effect owing to the fact that some words in this list are distinctly more familiar than others and so recognisable by sight.**

Irregular word lists (Nelson 1977 and Swabey 2002 – pilot list)

- **ask yourself what a skilled reader might score: answer 100% correct.**
- **what might prevent this?**
 - visual processing difficulties, leading to an inability to spot the visual patterns that trigger access to a visual lexicon;
 - visual working memory difficulties, leading to a difficulty in accessing words instantly from a visual lexicon;
 - having a limited vocabulary to populate the visual lexicon in the first place;
 - or any combination of these.

- N.B. assessors are encouraged to adjust the score to discount words that a reader is not likely to have encountered before. There are two issues with this:
 - we are reliant on the learner's recall and honesty in judging whether the word is likely to have been encountered before. Phrasing the question carefully to prompt this judgement is important.
 - the extent of the learner's vocabulary is an important factor in its own right and likely to be a self-perpetuating feature of adults' struggle to acquire reading skills (Stanovich 1986). The less extensive your reading experience is, the narrower the vocabulary range and so increased pressure on effective word recognition skills.

Test of Word Reading Efficiency: TOWRE (Torgesen et al. 1999)

This test comprises the Sight Word Efficiency (SWE) subtest and the Phonemic Decoding Efficiency (PDE) subtest.

The test claims to measure two of our reading components in tandem, namely **word attack skills** and **fluency** (or at least **speed** of single word reading, as this is a timed test):

1. Sight Word Efficiency

Interpretation of this subtest is similar to that of the irregular word lists; however there are a couple of additional factors:

- there is a mixture of phonically regular and irregular words in the TOWRE lists. In theory a reader with visual recall difficulties could work out some items phonically;
- in practice, because this is a timed test the phonic strategy is likely to slow the process and cancel out this effect in the score;

- because there is no instruction to check on prior knowledge of the words then incidentally this test is also affected by the extent of a reader's **vocabulary**.

2. Phonemic Decoding Efficiency

Interpretation of this subtest is similar to that of the nonword decoding test, with a couple of additional factors:

- it could be said that, in being timed, this subtest is a better predictor of deep seated phonological processing difficulties, as some adult readers with partial compensatory strategies can use a phonic cueing strategy, but not as quickly as a skilled reader.
- the fact that multisyllabic items only occur towards the end of a lengthy list means that slower readers who are timed out will not be tested on the additional auditory working memory skills needed to decode such items.

In both of the TOWRE subtests there is the additional factor of general processing speed which can limit some dyslexic readers' performance.

Wide Range Achievement Test: WRAT 4 (Wilkinson and Robertson 2006)

Two subtests of this assessment package measure reading skills.

The Word Reading subtest comprises lists which include both regular and irregular words to be read in an unlimited time. It therefore has limited diagnostic potential beyond the standardised score acting as a comparator with other readers or the same reader's progress over time (when testing is repeated after an intervention). Too many different factors are implicated in a reader's performance.

The Sentence Comprehension subtest gives an index of **vocabulary** and **comprehension** which:

- is not reliant on recall as readers have continuous access to the text;
- has limited checks on the reader's ability to use context, as the texts are single sentences;
- requires some subject knowledge in addition to specific vocabulary;
- also requires verbal reasoning skills to ascertain the correct word to fill the gap;
- because the reading is silent only allows the assessor to infer word attack skills and fluency indirectly.

Access Reading Test (McCarty and Crumpler 2006)

This is an assessment tool that I purchased at a PATOSS conference, but have not yet had a chance to try out. It is standardised for ages 7 to 25 and contains reading materials that are moderately neutral as to age. Candidates read a series of texts silently and answer multiple choice questions after each one. There is an overall time limit of 30 minutes.

The interesting feature of this test is it distinguishes scores based on four elements:

- literal comprehension (obtaining facts);
- vocabulary (knowing meanings of words);
- comprehension requiring inference (matching a text to a different phrasing of an opinion);
- comprehension requiring analysis (deciding on if information in the text agrees or disagrees with a statement of fact).

Hence the assessment has some diagnostic value in pinpointing different aspects of understanding of what has been read.

Reading style and miscue analysis (Klein 2003; Goodman 1967)

The ADDS methodology makes detailed use of an analysis of reading style based on speed, repetitions, hesitations and corrections. It also covers general observations about strategies used by a reader attempting a piece of extended text that is hard enough to generate at least 20 miscues (thus taking the reader somewhat out of their comfort zone).

Assessors need to be encouraged to take a holistic stance in coming to conclusions about what is happening when an adult with a very complex case history of education, experience and compensatory strategies reads text aloud for this purpose. Hence there is no simple interpretation of reading style. Equally, observing an adult reading and conducting a miscue analysis gives insights into the pattern of strengths and processing difficulties that might underlie performance, but in far less clear a way than spelling error analysis.

The interpretation of miscue analysis appears to consist of making a number of choices or possible inferences, which I have tried to capture in a series of flow diagrams (Figures 1 to 3). As with single word reading, the most efficient mode of reading is one of instant visual recognition of words and phrases in a reader's visual lexicon. The most advanced and widely read reader will have the most extensive lexicon to draw from. A competent reader will only resort to phonic analysis for completely unfamiliar letter combinations. There is evidence from research (Bruck (1992), Lundberg and Høien (2001), Ransby and Swanson (2003), Scarborough *et al.* (1998), Besser *et al.*'s (2004)) that many adults (even teachers) have forgotten the work on phonics they did at school through lack of use in everyday reading. Fluent adult readers will also use semantic and

syntactic context proactively to assist fluency (predicting the sense of what is to come in the text) and reactively when things go wrong and a word or phrase does not make sense. This is a significant difference from most fluent child readers who still recall their learning of phonics and use it to supplement a less extended sight vocabulary (Greenberg and Ehri (1997), Greenberg *et al.* (2002)).

On a technical level it is worth remembering that a + in the visual or phonic column still indicates a mistake in reading and so is not indicative of a strength, just a relative preference for one cueing system over another. For that reason it is also really important to register how many words and phrases are read correctly, when trying to establish direct evidence of strengths.

When coding visual and phonic cueing it is also more useful to register a difference, e.g.

Visual	Phonic	
+	✓	more indicative of a visual cueing strategy
✓	+	more indicative of a phonic cueing strategy, perhaps by trying to sound out the word.
✓	0	definitely no sounding out, but some attention to visual detail
0	✓	a miscue that has little resemblance to the visual form (often a nonword), but the reader has tried to make sense of the sounds.

The same coding in each column is less diagnostically revealing.

Figure 1: interpreting visual cueing strategies

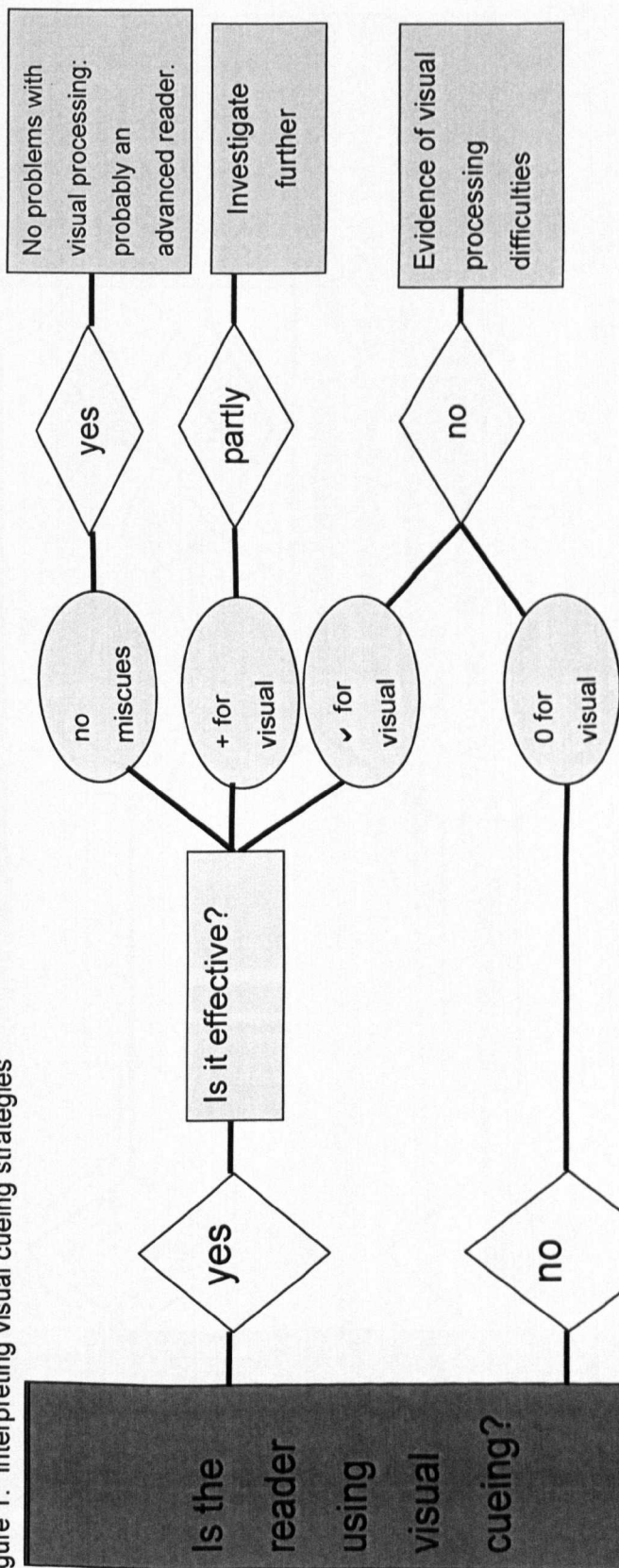
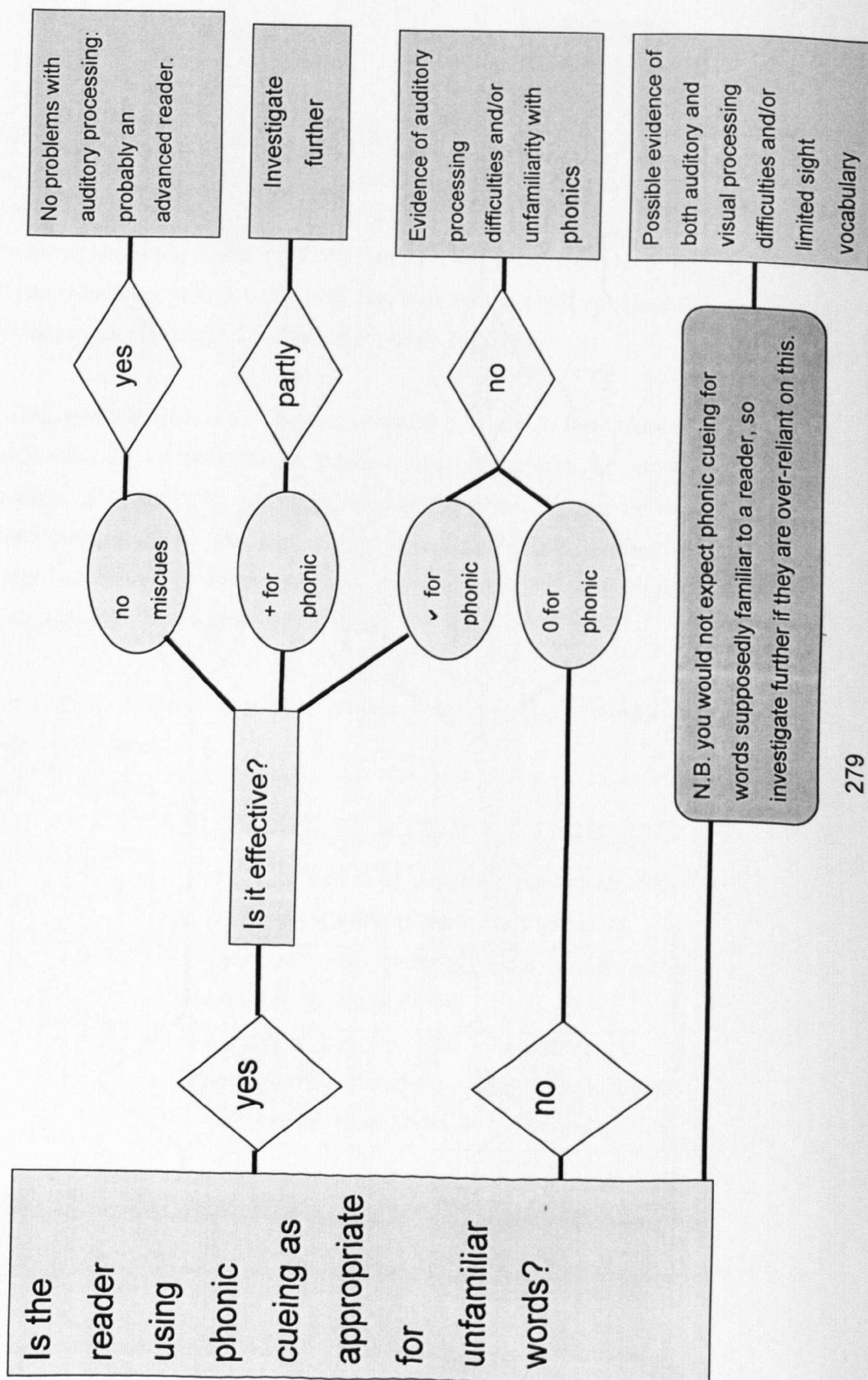
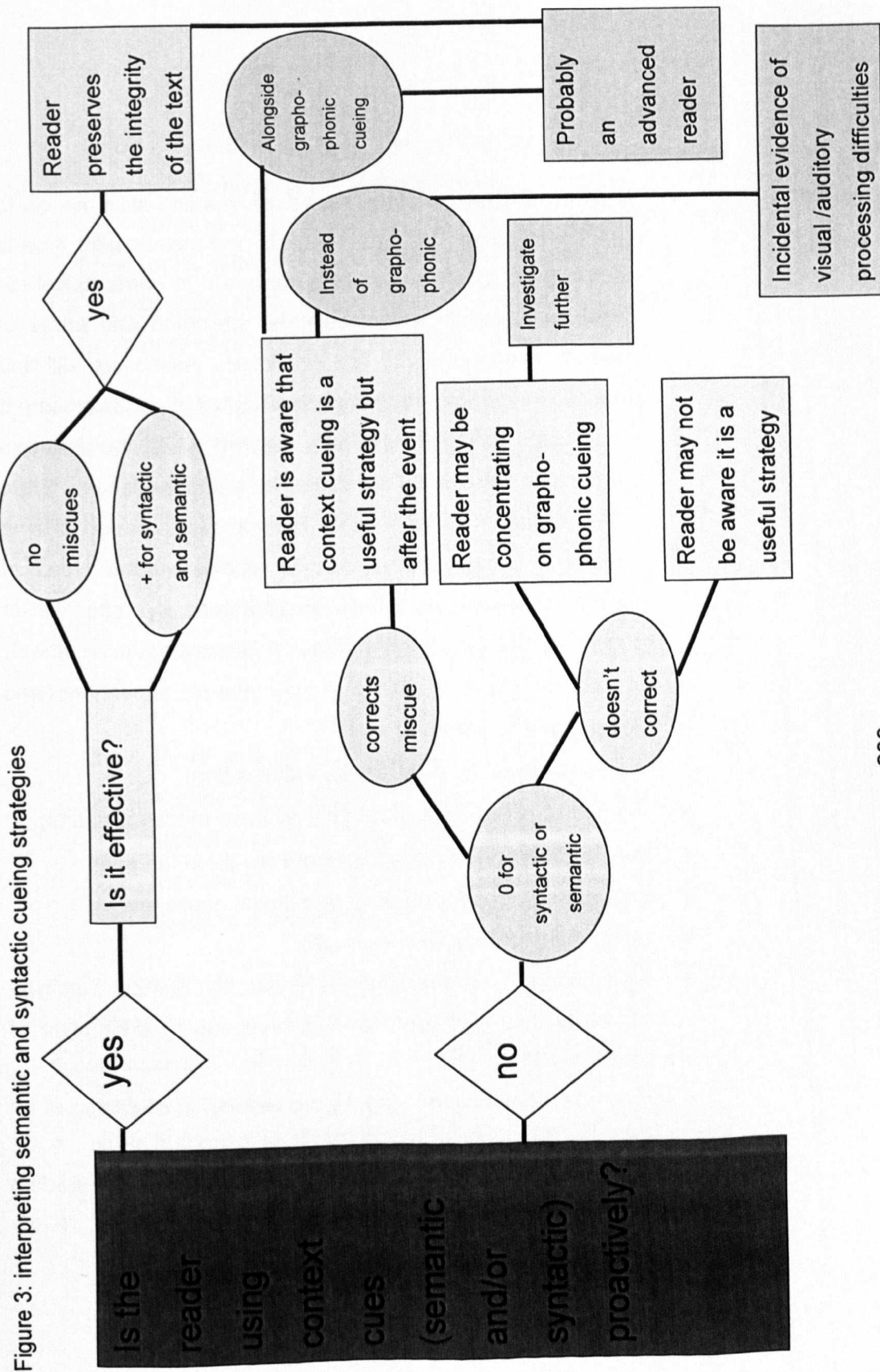


Figure 2: interpreting phonic cueing strategies





Conclusions

- A coherent assessment of an adult's reading skills needs to examine a variety of factors, as no one assessment type is sufficient on its own. It is also important to come to holistic conclusions, which reflect both the strengths and areas of difficulty experienced by the individual. Assessors will find themselves comparing and contrasting different assessment results and triangulating them against what the learners themselves say about their strategies and experience. There is also value in working with a learner over a period of time beyond a formal assessment, to elucidate what types of support strategies work best. The following is a checklist of possible areas for consideration in a full reading assessment:
- the context for the reader – their needs, aspirations and developmental stage;
- their self assessment of issues with reading;
- the nature of any breakthrough they have made in reading;
- their recollection of ways they were taught in the past;
- their preferences for reading type, style, genre, etc;
- observation of their reading style;
- highlighting of the strengths they have, the number and type of words they get right, the effectiveness of their style of reading, etc;
- a comparison between single word reading and reading of an extended text;
- reading speed, fluency, expression, and reading effectiveness (an index of speed, comprehension (Cole 2010) and also accuracy);

- **analysis of their response to different word types:**
 - **phonically regular versus irregular;**
 - **concentrating on orthographical features of words (making them visually memorable;**
 - **concentrating on morphological features (identifying units of meaning and structure);**
- **the extent of their sight vocabulary;**
- **their ability to use different cueing systems effectively in combination:**
 - **visual**
 - **phonic**
 - **semantic and syntactic with a note for whether this is proactive (preventing miscues) or reactive (correcting miscues);**
- **their recall and understanding of a text (depending on whether they can refer back to the text or not), based on:**
 - **factual recall**
 - **reasoning**
 - **ability to make inferences;**
- **their ability to appreciate features of a work of fiction – pace, character, story line, description, poetry, etc;**
- **comparison of reading comprehension and listening comprehension;**
- **their response to different strategies for support over time, concentrating on:**
 - **word attack skills**
 - **fluency**
 - **vocabulary development**

- comprehension.

See Partridge (2010) for a modified extract from his article published in the Patoss Bulletin.

Appendix 24: Three texts used for passage reading and miscue analysis

(Klein 2003)

Hooliganism (post GCSE level text)

Undoubtedly the most damaging aspect of our football at the moment is hooliganism. Other facets of the matter may be debated; this violence is solely harmful. Mr Dennis Follows, when he was secretary of the Football Association, diagnosed it accurately when he advocated the banning of spectators under the age of eighteen from football grounds.

His idea was rejected for valid human reasons. Saturday has replaced the old Sunday morning as the working man's time of glory. The football match, core of Saturday, is, for many orderly youthful citizens as well as the unruly, the compensation for a week of monotonous, depressing work and, often, dispiriting family life. Mr Follows identified the specifically disruptive adolescent element.

On the other hand, many of his critics appeared to think that the youngsters in question were simply football followers enthusiastically supporting their own teams. If that were the whole matter it would be relatively easy to adjust: but it is not. Apparently it is not generally realized that many of these young men drink heavily on their football match "day out". The youngest of them – quite early teenagers – can be seen buying drink in the public-houses near many of the large grounds; it is simpler, safer, and more profitable for publicans to serve them than to ask their age or refuse. It may be accepted from one who has now twice been forced to defend himself against their

mindless violence, that a mob of drunken fifteen – or sixteen – year olds is frighteningly illogical, unpredictable, and potentially violent.

A significant statistic of public reaction shows that in a recent year Boxing Day attendances at League matches were 300,000 lower than in the previous year. This, on a fine day for the season, could not be explained away by the postponement of one Second and one Fourth Division match, the general quality of play, or competition from television.

The effect of hooliganism is almost certainly wider than has generally been accepted. It is not limited to driving away spectators who used to watch from the terraces, who are not prepared to take the risk of violence there, but cannot afford grandstand seats. It is increasingly clear that a considerable number of people, who used to travel by train to “their” team’s away matches, or from areas without first-class football, no longer do so because of the atmosphere created by young supporters in trains and at railway stations.

Source Unknown

Everest (advanced level text)

The rarefied air surrounding the upper part of Everest, or any other of the big peaks, obviously makes movement, even over easy ground, much more difficult. Lack of oxygen also slows down and blurs the mental processes. Beyond a certain point life itself is no longer possible. On the other hand, it is now sufficiently proved that the ill-effects of altitude on the climber may at least be retarded by a careful regimen of what we call acclimatization, a gradual getting used to increased height over a certain period of time. Individual performances on a mountain naturally vary but it may be said that those among us who are best adapted to climb high mountains, provided they follow this policy of gradualness, can reach an altitude of at least 21,000 feet and remain there without serious detriment – at any rate long enough to make a supreme final effort to reach a higher point, provided it is not too far above.

Trouble begins above that height, which is one main reason why the really high peaks – those of 26,000 feet and over – are in a different category of difficulty from any lesser ones. The policy of gradualness breaks down, for the muscle tissues begin to deteriorate fairly rapidly and the climber's resistance to cold, his fortitude in the face of wind and weather, are weakened. He tends to lose the prompting of appetite and thirst and he is denied the relaxation of normal sleep. In fact, from about 21,000 feet onwards, he really needs greatly to speed up the rate of his progress and employ "rush" tactics. But this he cannot do. On the contrary, he is increasingly handicapped by the height as he climbs and his progress becomes painfully slow; the mental effort, like the physical, is infinitely greater. If this is true of easy ground, it is more so when difficulties arise, even minor ones, which would not deter a moderate performer at a lower height. A

slight change of gradient may be a straw which will break the camel's back. Considering that Everest is over 29,000 feet and that some 8,000 feet have to be climbed above this established level of successful acclimatization, one aspect of our problem, which also played an important part in defeating former expeditions, becomes clear.

From "The Ascent of Everest" by Sir John Hunt

How Divers' Bones Die 1,000 Feet

Under (undergraduate level text)

One of the terrors of the deep for North Sea divers is a painful insidious and potentially crippling condition known as aseptic bone necrosis – literally death of the bone. According to a major report published this month, bone necrosis among divers is on the increase. A survey of the medical records of 5,000 commercial divers by researchers at Newcastle University shows that the number of men suffering from the disease is increasing steadily as the search for oil moves into deeper and deeper water.

The fact is, the deeper you dive and the longer you do it, the bigger the risk of bone damage, says one veteran Aberdeen-based diver. "It's not an immediate fear among the lads, like the bends or hypothermia, or drowning, or even burning yourself with a welding torch, but it's always there at the back of your mind, like smoking or cancer. After a few years at the game, you start worrying about every little twinge in your shoulder, or cramp in your leg".

The report, compiled by the Decompression Fitness Central Registry at the University and published by the Underwater Engineering Group, found that, while none of the men who confined themselves to shallow water had the bone damage, 8% who went below 100 metres had developed symptoms. Below 200 metres, the figures shot up to 15.8%, while more than 22% of the men who had dived below 300 metres had bone lesions.

Professor Dennis Walder, one of the authors of the report, explained that bone necrosis attacks the arms and the leg bones of the divers. So long as the lesions are confined to the "shaft" of the bone, little

damage is done, but once X-rays show lesions in the diver's joints, (usually shoulder joints), the diver's fitness certificate is cancelled, and his well-paid underwater career is usually over.

No-one is quite sure why bone necrosis should plague men who work at great barometric pressures. "The traditional feeling is that the decompression process sets up bubbles from the body tissues" Welder explains, "and that somehow these bubbles block the blood vessels supplying that bone so that the bone dies. But there are a number of problems with that theory. If it is that random, why does necrosis affect only the long bones like the femur and humerus? Why not the vertebrae or the fingers?"

Why bone necrosis should undermine the shoulder joints is equally puzzling. "All I can suggest", Walder says, "is that because divers are supported by the water, their legs do very little work, but their shoulders work hard. It could be that the action of the muscles draws blood away from the bones making it more vulnerable".

Nor can there be any "cure" for bone necrosis until the cause and effect of the condition is clearly understood. Since the early 1970's, Walder and his colleagues have been working on the startling theory that the gas bubbles which do the damage are generated by spontaneous nuclear fission in the body, in a series of minuscule atomic explosions. "We think that this fission is fuelled by the small deposits of Uranium 238 which we all carry in our bodies", he says. "It is significant, we think, that most of it is carried in the surface of our bones".

With the help of nuclear scientists from Harwell, Walder is trying to find some simple way of identifying people who carry large quantities

of uranium so that they could be “screened out” from deep diving.
“We haven’t come up with anything yet” Walder says, “but we’re
working on it”.

George Rosie

Appendix 25: Profiles of learners

Profile of learner ML1 (Abigail) following intervention and summative assessment phase

Abigail is a 22 year old undergraduate student, undertaking a foundation degree in hospitality management. She was diagnosed as being dyslexic at the age of 13, receiving extra time in her public examinations at school but no systematic learning support.

From initial assessment, it appears that Abigail is an advanced reader with an effective visual cuing strategy that works until she comes across unfamiliar words. It is not completely clear how extensive her visual lexicon for more complex vocabulary coming up in her course, as the single irregular word list does not really act as a good indicator for a reader at her level. The nonword reading test shows that Abigail can do some basic phonic decoding, but she doesn't apply this nearly so well in the multisyllabic regular real words. She shows the additional issue of a working memory deficit when juggling the sounds of long words.

Working memory is also likely to have a big impact in her recall and comprehension for extended text. Her comprehension was estimated to be only 20% of the detail of what she read in an undergraduate level passage.

Additional evidence for this comes from a recent educational psychologist's report. Abigail's scores on the Weschler Adult Intelligence Scale (WAIS) verbal scale and in many of the CTOPP phonological measures come within the average band though she does score particularly low on phonological processing speed (letters

and numbers) and low on other aspects of processing speed and working memory. It may be that when reading, Abigail is still having to work relatively hard to process all the aspects of sound and symbol and although she comes across as relatively fluent, this is what disrupts her comprehension. It is also notable that processing speed and memory issues are what depress Abigail's performance scale on the WAIS compared with some relatively strong verbal scores.

Abigail is recommended by the educational psychologist to consult a "behavioural optometrist" to investigate visual stress.

During the five hours of intervention, Abigail and her tutor worked on:

Comprehension strategies:

- Abigail's tutor showed her the SQ3R method (C1) in session and got a very positive reaction, saying "it is such a simple thing, but I had never been shown [it] before."
- Her tutor enhanced the impact by also using the read aloud and highlighting functions of "Texthelp," a text to speech assistive technology package.
- They tried out the approach on the more complex reading of journal articles, starting with titles, examining the first line of each paragraph and trying to formulate questions. Abigail showed more confidence when the focus was put on posing questions.
- In week 4 of the intervention, Abigail's tutor introduced Strategic questioning (C2). The emphasis on reviewing what you know about a topic before starting to read was a revelation to Abigail. This combined with highlighting key

points in the text helps her reduce the burden of having to write so many notes.

Fluency strategies

Though not specifically covered in the sessions, Abigail and her tutor did discover that the effort of reading aloud can seriously disrupt her comprehension. He either reads silently or uses Texthelp.

Vocabulary development strategies

- Frustratingly, vocabulary development strategies were not introduced until the last session. Abigail's tutor then used a mixture of V1 (the vocabulary frame) and V2 (writing words into sentences to consolidate meaning). Abigail showed resistance to the method, disliking the strategy of breaking a word into chunks to make it more memorable.

Progress Abigail made

- Abigail achieved a foundation degree and has progressed with her studies to the next level.
- She felt the greatest gain was acquiring the SQ3R strategy for comprehension (C1), which gave "purpose to her reading", breaking the task down into "chunks."
- She still uses this method for reading coursework, though it is more difficult for journal articles than text books. Although the approach can slow down her studies, as she takes more notes, Abigail reports she now looks forward to reading rather than it being a chore.
- She rated strategic reading (C2) as excellent, along with support in using a voice-mediated software package (Texthelp Systems Ltd 2010) more effectively.

- Abigail showed the highest attainment levels of all 10 learners at initial assessment. She was assessed precisely in the middle of the “average range” on WRAT 4 standardised assessment and gained 4 standard points on re-assessment, which is within experimental error.
- She was already reading on the cusp between “instructional” and “independent” reading (Gickling and Armstrong 1978), 97% accuracy at initial and 98% at summative assessment, when reading an undergraduate level text.
- By the final session of the intervention Abigail had received new prescription spectacles from a specialist optometrist, to help compensate for visual stress. My collaborator researcher, quite rightly, asked her not to use these for the final assessment, as she was not yet used to them and they could have potentially have skewed the results. Even so, Abigail achieved a notable 22 wpm increase in reading speed.
- Disappointingly, considering the concentration of comprehension strategies, Abigail’s 10% gain in comprehension score only took her up to 30% success.
- Evidence from Abigail’s educational psychologist’s report (she is already confirmed as being dyslexic) points to underlying issues of processing speed, when undertaking phonological tasks, and working memory deficits, for which Abigail still needs to find more compensatory strategies. It was beyond the scope of this research to work in detail on memory enhancement.
- Other barriers to progress may include the lack of time devoted to vocabulary development and the gaps in the intervention phase (one session cancelled owing to bad weather and also half term).

Profile of learner ML2 (Sarah) following intervention and summative assessment phase

Sarah had a starting level of Entry 1 of the adult core curriculum, based on the information gained during the initial assessment phase and in particular the level of passage she read for miscue analysis. She had little or no formal schooling in her native country of Zambia, arriving in England at the age of 15. She is now thirty-seven. Her spoken English is competent but she avoids reading in day to day life. At the time of our working together Sarah was expecting her third child. She expressed an interest in reading celebrity magazines and during the intervention period we followed this up, along with reading about childbirth and children's literature.

Sarah's initial assessment indicated a very limited range of sight vocabulary combined with a lack of familiarity with phonic decoding, as she struggled both with multisyllabic regular words and nonwords. Sarah's pronunciation of vowel sounds is non-standard, an effect of English being her second language, combined with limited schooling in reading acquisition techniques and a mainly oral culture. However, she was willing to attempt sounding out regular words, often just failing to achieve final syllables in long regular words. She showed some ability to spot visual patterns and words within words. Sarah read slowly (36 words per minute at initial assessment), had 89% accuracy in text reading and very restricted recall and comprehension (25%).

During the six hours of intervention, we worked on:

Fluency strategies:

- I intuited that giving Sarah the confidence to read texts of high interest might encourage her to stop avoiding reading. We started a programme of paired reading (F2) with an article taken from "Hello" magazine on a recent birth of octuplets. Sarah quickly tuned into the context and interjected comments as we went on. In later sessions we covered texts to do with pregnancy and home birth, plus a children's story book for her to try reading with her 7 year-old daughter. The idea of paired reading is never to let the learner struggle with reading harder words. Having noted that in the initial assessment Sarah was trying hard to predict words from context, I observed that she became quicker at this with the added confidence of me as support. Paired reading became a staple for our activity over the intervention period and Sarah rated it as excellent in evaluating its effectiveness.
- To ease the burden on Sarah's reading stamina, in longer articles I sometimes read to her. This served as a model for reading with expression and I was able informally to assess her listening comprehension through the conversations that we had. She had no apparent problem with picking out information when not burdened with the task of reading.
- I generally started each session with a recap of what we had read the previous week. Repeated reading, albeit still with the support of paired reading, is an effective strategy to reinforce the work on vocabulary and meaning in a text. However, it needs to be used judiciously to avoid boredom or seeming to patronise an adult learner.

Word attack strategies:

- From her assessment, it seemed that Sarah had the potential to develop competent word attack skills so we started on a programme of onset-rime training (A3), reasoning that focusing on larger units of sound and morphological features of a target word might be more efficient in a short-term intervention than systematic synthetic phonics instruction. As we pair read a passage I noted down interesting target words to work on later. We split longer words into syllables and then I articulated the onset and rime, highlighting the differences in colour. We worked on this for 4 sessions, covering single syllable words such as *hands, kids, love, life* and more complex high interest words such as *labour, hospital, sometimes*.
- Sarah appeared to be able to both hear and see the patterns that I pointed out in the early stages. To check further on this, in sessions 3, 4 and 5 of the intervention I worked more intensively and systematically on onset rime training. I took a series of target words and asked Sarah:
 - to say the sound of the onset following my oral prompt of the whole word ("what is the sound at the start of *birth, sister, brother, child?*");
 - to identify the sound of rimes ("take the first sound off, *book, bell, baby, breathe* and what do you get?");
 - to put an onset sound on a rime (e.g. "put /p/ on -ath, /t/ on -ime, /c/ on -oat");
 - to highlight onset sounds with a colour;
 - to highlight rimes with a different colour.
- Sarah could complete the oral tasks competently if given an example of what was needed. She had a tendency to

highlight syllables rather than onset and rime when dealing with multisyllabic words. Working out how much of a syllable constitutes the rime is a hard concept to explain.

- I wrote the target words on cards, with the onset and rime highlighted visually, to look at between sessions at home. However, I am not convinced that Sarah did this in any systematic way, given her busy home life as a single parent.
- To complement the rime training, from session 3 onwards I also used rime prompting (A2) when Sarah was reading to me, trying to ensure that Sarah could hear the word divisions in the way I said them. This worked to a certain extent. I subsequently observed Sarah attempting phonic decoding for unfamiliar words, e.g. *dev/e/lop*, *de/cide*, *re/gar/ding*. I pointed out this as a successful strategy. However, my rime-prompting when she got stuck was occasionally demoralising and it interrupted the flow. In our final session together I concentrated more on simple paired reading.

Vocabulary development strategies:

- Although the word attack strategy generated new words which Sarah could have worked to retain for vocabulary development, I concentrated on the **process** of word attack to try to make it generalisable to all reading contexts. That is one of the differences between these two approaches. Sarah's resistance to practising words between sessions made it hard to justify further vocabulary development activity.

Comprehension strategies:

- We did not work systematically on increasing Sarah's recall and comprehension, beyond general conversations about what we read. It seemed appropriate for Sarah to take in the information naturalistically. The topic of preparing for labour

and home birth was urgent, given Sarah was seven months pregnant at the time. Ethically, a learner's needs will always take precedence over research protocols.

Progress Sarah made

- Sarah improved her scores in four out of five measures between initial and summative assessment, giving some confidence that the interventions had a positive effect.
- She improved 3 standard points in WRAT 4 word recognition but had 4% more miscues in passage reading (86% showing that even Entry 1 level texts are out of her comfort zone).
- She speeded up by 23 words per minute to a new level of 59 wpm (still very slow).
- In a measure of comprehension she improved by 13% but was still missing a lot of the detail of what she read with a score of 38%.
- With improvements in both speed and comprehension, Sarah's index of reading effectiveness also rose.
- Sarah was fulsome in her praise of the support she received through this research. She said she looked at words differently now and would have confidence in looking at a magazine, knowing that she could put some of the words together. She was pleased with the information she had gained from reading about childbirth.
- Although she had not had time (or confidence I feel) to read a book to her 7-year-old daughter, she expressed a wish to follow up work on reading to her children, perhaps through attending family learning sessions.
- Sarah particularly highlighted paired reading, rating it as excellent. She favoured working on visual patterns in words (excellent) above working on sounds (good).

- Even though I didn't think it worked particularly well, Sarah rated rime prompting as excellent, helping her to get the idea of how words split.
- From my point of view as a tutor and researcher my time with Sarah was exceptionally stimulating but also frustrating as her last session with me was also the last one before she left her adult literacy scheme for maternity leave. The work we started will not be followed up until she resumes.

Profile of learner ML4 (Colin) following the intervention and summative assessment phase

Colin is aged 16 and studying for a BTEC 1st diploma in sport (a level 2 course). He was assessed as being dyslexic at primary school. Reading is still a big barrier to his progress and he receives learning support at college. He lacks confidence and apologises when he reads a word incorrectly.

Colin reads in a slow and stilted manner as he struggles with unfamiliar words in a text. He uses an almost exclusively visual approach to working out words and often comes quite close in his miscues. However he either chooses not to try or struggles when attempting to sound out a word. This is illustrated also in the long regular word list, where he finds it hard to get past the first or second syllable. The nonword list shows Colin has a reasonable grasp of most of the straightforward sounds in single syllable items. However, it is not clear how long this took to process. This and his difficulty with longer items gives a reasonable indication of possible auditory processing difficulties.

Colin made a commendable attempt in the irregular word list, identifying all but one of the words in his visual lexicon. There is not enough evidence to say Colin has visual processing strengths, however, and he does make a number of small slips when reading the passage and takes little account of punctuation marks.

Colin found it hard to recall the passage in detail (though he did make more correct responses when focussed with questions, especially those relating to the second part of the text - more recent in his memory and also when he was becoming more fluent).

During the six weeks of intervention Colin worked on:

Word attack strategies

- Frustratingly it is not clear from the session records and the video evidence that Colin's tutor adhered closely to any of the guidance sheets. She used the enhanced LCWC method (A1) but it was not apparent that the practice element was included.

Fluency strategies

- Colin's tutor tried out paired adding (V2) in session 3, but found he could not keep up with her. She decided not to repeat the technique
- Later on she found that reading to Colin and then hearing him read the same text was a more successful approach.
- Colin's tutor generated text from his own words using the "language experience" approach. The added confidence of knowing the words in advance helped Colin read more fluently. He rated this as one of the best techniques.

Vocabulary development strategies

- Colin's tutor used modified versions of V1 and V2.

- Time was taken to identify and highlight key words in a text that might prove difficult, colour coding different sections of each words, though it was not clear whether this was to emphasise sounds or visual patterns (Colin says it is hard to keep sounds in his mind). They had conversations about the meanings of unusual words, putting them into oral rather than written sentences, in a subtle variation on V2.
- It appears that Colin's tutor took the lead in selecting vocabulary to work on, rather than helping him to identify the target words. In later sessions they recorded some of the sentences in writing.

Progress Colin made

- Colin made the biggest gain on the WRAT 4 word recognition test, moving up a notable 6 standard points, though still remaining in the "below average" band.
- He made a 5% gain in reading accuracy, a modest gain in comprehension, and maintained a very slow reading speed of 47 wpm.
- Perhaps most successful was the work on vocabulary development, when Colin and his tutor examined the meanings of target words in a high interest text. In the video evidence I observed him having definite success with those target words.
- Colin's tutor felt it was beneficial for him to slow down his reading, paying more attention to individual words, whereas previously he would have quickly mumbled words he could not properly read. His reading "sounds less disjointed."
- She gave testimony of the efficacy of preparing vocabulary so that work on words does not disrupt fluency. She also saw the

benefit of preparing simplified versions of target texts, to aid confident reading.

Profile of learner ML5 (Derek) following the intervention and summative assessment phase

Derek is a 36 year old railway worker attending an adult literacy class. Derek reads using an exclusively visual approach for single words. He makes no attempt at phonic decoding of unfamiliar words. This is confirmed in his great difficulty with non words and regular words. He strives for and is successful in maintaining the grammatical sense of what he reads in the context of extended text. His miscues either made syntactic sense or he corrected them so that they did. He is not so successful with the semantic meaning. His repetitions show where he tried to extract meaning. This will undoubtedly hamper his recall and comprehension, though memory may also be a factor. He has a limited sight vocabulary. His overall comprehension levels were low (31%). Derek appears to concentrate hard on meaning localised to word and phrase, at the expense of overall understanding.

Derek appeared to have no help with reading at school and has only started to make any progress through an interest in trains, through the needs of his work and though coming to adult education. One would need to know the age of his head injury and the severity of its effects to know a) if Derek had problems before this event, b) this might have led to an acquired form of dyslexia. He appears to have had no early encouragement with reading from home.

During the six hours of intervention Derek worked on:

Vocabulary development strategies

- Derek and his tutor both like the vocabulary frame (V1) and used it to record target words for the passages he is reading. As with her other learner (Bill) this tutor has a tendency to exaggerate the pronunciation of words to try to link their sounds and/or visual patterns into word families. However, this approach sets up potential conflicts when reading aloud and needed to be used with care.
- Derek appreciated the use of pictures to act as further aide-memoirs on the vocabulary frame.
- She also used V2, writing the targets words in sentences for Derek to work on at home, making a potentially more overt link with meaning (something his initial assessment indicated was weak).

Word attack strategies

- Derek's tutor thought that it was straightforward to use the words generated in V1 to learn using the enhanced Look Cover Write Check method (A1). However, because he was also working on different words for spelling in his group session this was another source of conflict and was curtailed.

Fluency strategies

- Derek experiences some degree of visual stress, which his tutor minimised by using green or blue paper and sans serif script with double line spacing (F1)
- Derek and his tutor used paired reading (F2), though when he is confident she merely supplies the problem words. Fully paired reading appeared to distract Derek.
- Useful information shared about typographical anomalies, e.g. hyphenating of words across line breaks.

Progress Derek made

- Derek made moderate gains in performance between formative and summative assessment.
- He was one of 5 learners who decreased his reading speed, in this case by 11 wpm to a very steady 39 wpm.
- Disappointingly, despite the work on word meanings his comprehension remained low, moving from 31% to just 35%.
- Derek' wife has noticed a gain in confidence in Derek's reading *she helps him at home) and his work mates have also noted a difference in him.

Profile of learner ML6 (Eiliyah) following the intervention and summative assessment phase

Eiliyah is a 23 year old student on a level 2 childcare course. She was assessed in college as being dyslexic but also still experiencing the effects of second language interference. Her mother tongue is Urdu. She is clearly still struggling with reading and has few completely successful strategies. In passage reading, she uses predominantly visual cuing, but still makes a number of small slips (words inserted and omitted, plus near misses). She makes a high proportion of miscues and is not monitoring actively for meaning from context. Not surprisingly Eiliyah has very limited recall of what she has read.

The limited number of attempts at phonetic cuing and difficulty illustrated by the nonword and regular reading word lists shows probable phonological processing difficulties. This is despite remembering phonics as being the best aspect of learning reading at school. She says she uses phonics to break words down, but it may actually be that she is using a more visual approach (she also

mentions looking for words within words). This is exacerbated by second language interference and problems with pronunciation. However, she read some complex, multisyllabic words in the regular word list, where it may be that she saw patterns or familiar bits in the words.

Eiliyah reads slowly, but it is not possible to see precisely where or why she slows up as there are few hesitations or repetitions. She has a limited sight vocabulary and makes slips in recalling even high frequency words.

During the six hours of intervention Eiliyah worked on:

Word attack strategies

- Eiliyah's tutor touched briefly on onset rime training (A3) to see if this helped her pick up patterns in words. However, her dyslexia assessment indicated that she had auditory processing difficulties, so this approach proved difficult. There was a small impact on improved pronunciation but not reading skills.

Fluency strategies

- Eiliyah uses a finger to keep track on words in a text. This appears to slow her down and make her reading stilted. She resisted using different fluency aids, like a reading ruler (F1). However, when asked to try reading without her finger this proved a breakthrough, as she started reading phrase rather than individual words.
- Despite initial uncertainty about the technique, Eiliyah and her tutor persisted with paired reading during all six sessions.

Vocabulary development strategies

- Eiliyah and her tutor were also the most consistent pairing in using vocabulary development strategies throughout the intervention. They systematically collected words from the book they were reading together. They used the vocabulary frame (V1) most imaginatively in all six sessions, evoking images and mnemonics to make words more memorable.
- They looked up word meanings, drew pictures to make them more memorable and used the target words in sentences V2)

Progress Eiliyah made

- Eiliyah's scores decreased for all but reading comprehension.
- The changes were modest except for reading speed, which slowed by 24 wpm.
- Some of the decreases could be put down to distress caused by the passage used for summative assessment. Eiliyah's tutor noted that "the passage did not activate her schemata, as she had no background knowledge" of the topic and misread some key words.
- By contrast, my collaborator researcher noted an increase in fluency during the intervention sessions, when they concentrated on a high interest text. There were also improvements in pronunciation of words.
- There were deep seated aspects of poor working memory that meant Eiliyah did not always recall points learned from previous sessions. Repetition and consolidation were key features of the intervention. However, six sessions were not long enough for this type of learner to make more than superficial improvements.

- There were also significant gains in the **tutor's knowledge and confidence**. Though unsure about how to use paired reading, she consulted with me and matched her pace more to Eiliyah's following feedback. This proved a useful way of supporting better pronunciation as much as fluency. Overall she said that having "jumped at the chance to take part in the reading research" she wished she had known some of the strategies before, as this has enhanced her practice.

Profile of learner ML8 (Rachel) following the intervention and summative assessment phase

Rachel had a starting level of Level 2 of the adult core curriculum, based on the information gained during the initial assessment phase and in particular the level of passage she read for miscue analysis. She remembers books in the house and help with reading from her father, yet by the age of eight Rachel was experiencing enough difficulty with her education that she was referred to a special school for the remainder of her education. She does not recall a particular breakthrough with her reading, but now gets pleasure from fiction, particularly the horror genre, citing Stephen King as a favourite. Currently unemployed, Rachel attends literacy and numeracy classes.

I found it difficult to discover a particular motivation for Rachel to read with more frequency in her daily life. She seemed unconcerned about her poor comprehension skills and recall of what she read. This may be why she restricts herself to fiction, where atmosphere and enjoyment is more important than precision of reading and information gathering. Miscue analysis revealed that Rachel rarely shows strategies for monitoring meaning, seldom correcting multiple

small slips. Equally notably she attempted every word, but through a visual cueing system rather than phonic analysis. Her low scores on long regular and nonword lists confirmed a phonological difficulty, which may be quite deep-seated, despite remembering being taught about sounding out at school. Rachel appears to experience some visual disruption in her reading, often not “seeing” the ends of longer words and ignoring punctuation in the text. This is exacerbated by the fact that though she has had a recent optometrist’s test, she cannot afford the cost of new prescription glasses. I ensured that I always used texts of a minimum of 16 points to minimise the impact of this. Rachel has not been assessed as being dyslexic.

During the six hours of intervention, using texts such as TV programme listings, web extracts about TV programmes, Danielle Steel’s “A Good Woman” and Bram Stoker’s “Dracula”, we worked on:

Fluency strategies:

- Rachel found paired reading (V2) distracting, so we stopped this in favour of alternate reading, with me acting as a role model for well-pacing reading with attention to punctuation and intonation as an aid to extracting meaning from a text. When she read alone sometimes I asked her to read silently and sometimes aloud.
- As well as large print, we experimented with tracking devices (V1) such as a reading ruler (a coloured overlay strip with a dark line inscribed), but this only seemed distracting.
- As part of a pre-reading activity we used a highlighter pen to mark full stops and other sentence breaks, discussing the importance of these and the physical act of breathing when reading. We used a different colour for commas. Rachel

read with much better fluency and intonation when we prepared in this way. In the summative assessment, where I considered it would be invalid to allow such preparation, Rachel reverted to ignoring punctuation, so clearly it needs a longer period of practice to notice textual features before this becomes automatic.

- The other feature of support was simply a high proportion of reading, to try and instil in Rachel the pleasure from reading. She knows it is an enjoyable thing to do, but Rachel does not appear to allow herself regular time to read and only accesses books when people lend them to her.

Comprehension strategies:

- Although it lends itself more as a strategy for reading factual material, I experimented with using SQ3R (C1) with Rachel. Our preview included talking about names and characters, highlighting proper names which it was not crucial to be able to pronounce accurately when reading for pleasure.
- We asked each other strategic questions (C2) such as, "What do I know about Dracula?", "What will I be looking out for?", and "What do I like about horror stories and how do they make me feel?"
- In reviewing after a period of reading I asked some minimal factual questions (which Rachel found hard to answer) and also about whether the excitement level had matched our expectations or whether the difficult language and old-fashioned style (of Dracula) had got in the way.

Vocabulary development strategies:

- Although we covered it in most sessions, I spent proportionately little time on specific vocabulary development. Rachel is hampered by very limited general knowledge from

her restricted life experience and low-level educational study. She also has a distinct memory deficit, which it is beyond the scope of this study to investigate. In six sessions, I did not have high expectations of her assimilating more than a few additional items of vocabulary in our short time together. I did not ask Rachel to learn words for reading, as this may have disrupted the work on spelling vocabulary she was doing concurrently in her literacy class.

- We worked on highlighting the impact of patterns in word endings (e.g. -tion) which Rachel is prone not to notice.

Word attack strategies:

Given Rachel's possible phonological processing difficulties, her existing level of reading and my emphasis on the pleasurable side of reading, I deliberately excluded word attack strategies from the intervention period.

Progress Rachel made

- Rachel improved a non-significant 1 standard point in her WRAT 4 word recognition score.
- She dipped by 1% in word accuracy during passage reading (taking her down into the top end of "frustration level" on 93%).
- She dipped in reading speed from 102 to 92 words per minute, though she was still not taking full account of punctuation.
- She increased her comprehension score by 18%. Though encouraging, and some recompense for the effort put into this reading component, this still leaves Rachel with just under 50% comprehension and recall.

- Rachel enjoyed our sessions together, rating all of the strategies we used as good, except for paired reading, which was distracting. She enjoyed the opportunity, above all, to have some one-to-one attention.
- She was not able (whether through disinclination, pressure of other things, or simple forgetfulness) to apply what we did together beyond the sessions. She did not read or re-read any of the passages I gave her, and consistently left at home the book I lent her. She appears not to read proactively at all in her life at this stage, though it is hard to pin-point why this is, given she is unemployed. For this reason, it is unrealistic to expect any remarkable changes in reading ability in just 6 hours contact time. Her literacy tutor promised to give Rachel time within the class simply to carry on reading for pleasure. All we can hope for, until a more important pretext for reading comes up in Rachel's life, is to maintain her current level of skills at what is a basic functional level (level 2), though knowing that she will need support for her comprehension and recall of any factual material.

Profile of learner ML10 (Fiona) following the intervention and summative assessment phase

Fiona is a 24 year old self employed childcare worker. She was only diagnosed as dyslexic late on in her school career and missed out on extra help in the crucial primary school phase for reading. She has made a breakthrough more recently as an adult, through literacy classes and one to one support. She aspires to read books and recently completed a short novel with help.

Fiona struggles with single word reading, not always recognising words by sight and having a limited range to her sight vocabulary (she doesn't recognise laugh, island, front, etc.). The non-word test shows that she is able to recognise one and two syllable items, sometimes instantly, sometimes segmenting into phonemes. She struggles with longer items (including in the regular word list).

In passage reading Fiona does not appear to adopt phonic cuing, perhaps because she thought the words looked familiar enough to guess. There was only one clear instance of this happening (covered). In the main, she was using a flawed visual cuing strategy. She made several slips, with single letter substitutions. Although she corrected a fair proportion of miscues, it was not clear that she systematically monitored for the grammatical sense or meaning of what she read. Considering the errors Fiona made, she had a fair recall of the content of the passage.

During the 5 hours of intervention Fiona worked on:

Fluency strategies

- Fiona and her tutor tried paired reading (F2) on one occasion, but because Fiona reads very slowly her tutor found it hard to match her pace. They both agreed it was too much of a distraction.
- Instead, the tutor read to Fiona to serve as a role model for fluency and expression as well as hearing her read.
- They discussed the role of punctuation in helping with pace and expression when reading.

They also used yellow paper to combat the effects of visual stress (F1).

Vocabulary development strategies

- The majority of the sessions were taken up with vocabulary development. Fiona's tutor rejected the word attack and comprehension guidance sheets as not appropriate for her needs.
- They started with V2 approaches concentrating on meanings of words and writing them in sentences.
- Later on they used the vocabulary frame (V1) to structure their work, and talked about splitting words into chunks to aid pronunciation.

Progress Fiona made

- With **ML10 (Fiona)** there was a 5 month gap between the end of the intervention phase and summative assessment, so it does not seem safe to draw conclusions linking findings with the strategies used. Fiona's performance deteriorated in accuracy and comprehension. Her speed remained the same, at a slow and laborious 38 wpm.